Santa Clara Valley Water District℠

# ANNUAL REPORT

ON THE

# PROTECTION AND AUGMENTATION OF WATER SUPPLIES

WATER UTILITY ENTERPRISE REPORT

2009

Photo: (Up) Upper Coyote Creek, (Down) CVP supply intake exposed during low-point at San Luis Reservoir

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## Mission

The mission of the district is a healthy, safe, and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective, and environmentally sensitive manner for current and future generations.

## Board of Directors

From left to right: Richard P. Santos, District 3; Joe Judge, Vice Chair, District 2; Rosemary Kamei, District 1; Tony Estremera, At Large; Sig Sanchez, Chair, At Large; Patrick Kwok, District 5; Larry Wilson, District 4.

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March 30, 2009

Dear Board Members:

This is the 38th annual report on the Santa Clara Valley Water District's (District) activities in the protection and augmentation of the water supplies of the District. This report, required by the Santa Clara Valley Water District Act to be published and filed prior to holding public hearings on groundwater production charges for the upcoming year, presents the water supply information that is the basis for the recommended groundwater production charges for Fiscal Year (FY) 2009-10.

This report continues to present the programs and services provided by the District's Water Utility Enterprise, along with the requisite financial analysis. The emphasis of this year's report is on the water supply challenges brought on by a third year of drought, compounded by regulatory restrictions on both imported and local supplies. To make matters worse, there is no end in sight for the economic woes that are affecting the county, the state and the whole nation. The District is also responding to the economic recession by reducing expenditures and improving operating efficiencies

On February 27, 2009, Governor Schwarzenegger proclaimed a state of emergency and ordered immediate action to manage the crisis brought on by a third consecutive year of drought. The governor requested, among other activities, that all urban water users immediately increase their water conservation activities in an effort to reduce their individual water use by 20 percent. If, by March 30, 2009, the emergency conditions have not been sufficiently mitigated, the governor will consider additional steps including the institution of mandatory water rationing and mandatory reduction in water use.

Under the Board's leadership, the District has invested in a diverse water portfolio over the two decades since the last extended drought, as a strategy to buffer impacts from shortages and to provide a reliable supply. With these investments, such as banking water at Semitropic, the District is able to lessen the magnitude of critical shortages in supplies due to hydrologic conditions and regulatory actions. Nevertheless, it is prudent for the District to continue to encourage maximization of water conservation as a way to extend limited supplies.

I am conscious of economic conditions within the county and the state in formulating a staff recommendation on groundwater production charges. Despite the expected loss in revenue from reduced water use and increased costs to combat the drought emergency, I recommend only a modest increase in charges. The recommended charges represent a significant reduction from those that were projected last spring. We plan to accomplish this through reductions to forecasted Water Utility operating costs and reductions in other areas that support the Water Utility Enterprise. The recommended charges reflect reprioritization of work as appropriate to address critical needs first, coupled with elimination or delay of lower priority projects and expenses.

There are negative consequences in meeting this ambitious goal of keeping the charge increases low: certain maintenance and asset management activities have been deferred, investments in long-term water supply augmentation have been postponed and program activities to manage the District's water supplies have been reduced. Although the immediate consequences may not be apparent, there are increased risks to the long-term reliability and sustainability of the Water Utility system.

The recommended FY 2009-10 Zone W-2 Municipal and Industrial groundwater production charge is $545 per acre-foot, an increase of 4.8% from FY 2008-09. The typical residence using 1,500 cubic feet of groundwater per month would see an increase of $0.86 per month.

Staff recommends a treated water surcharge of $115 per acre-foot. The total treated water charge would be $660 per acre-foot, the sum of basic user charge (equivalent to the groundwater production charge) and the treated water surcharge.

The recommended FY 2009-1O Zone W-2 agricultural groundwater production charge is $17.50 per acre-foot, an increase of 6.1%.

The recommended FY 2009-10 Zone W-5 Municipal and Industrial groundwater production charge is $285 per acre-foot, an increase of 3.6% from FY 2008-09. The charge translates to an increase of $0.34 per month for a typical residence using 1,500 cubic feet of groundwater per month.

The recommended FY 2009-10 Zone W-5 agricultural groundwater production charge is. recommended to increase 6.1% to $17.50 per acre-foot.

My recommendations reflect a prudent balance between securing the needed funds to provide crucial services of the Water Utility and coping with the difficult economic circumstances that we are all subject to. Embedded in these recommendations is a rigorous set of measures and actions that would enable the District to continue to provide a reliable supply of healthy, clean drinking water in a cost-effective manner. I look forward to presenting this detailed information to you in the coming weeks as you consider the groundwater production charges to be established for the coming year.

Sincerely,

Sharon Judkins
Interim Chief Executive Officer

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# I

# Present Water Requirements and Water Supply Availability

## I-1 Water Supply Conditions

As we began 2009, the state was facing a third year of drought. The water outlook could have only been described as bleak, with most reservoirs statewide at less than half of the storage level expected for the beginning of the year. Lower carryover storage and restrictive Delta export pumping rules could result in near historic-low imported supply allocations for 2009. As of March 1, 2009, the water situation has improved slightly. Significant precipitation in February brought statewide snowpack up to 80% of average, and statewide reservoirs up to about 70% of average storage levels. However, additional precipitation does not directly translate to increases in imported water supplies. Even if 2009-2010 were to bring further improvement in drought conditions, future imported supply allocations are expected to be reduced by as much as 30% due to restrictions imposed by the United States Fish and Wildlife Service's (USFWS) Biological Opinion on Delta smelt, issued in December 2008.

Inflows to the district's reservoirs were well below normal in 2008. After a very dry January 2009, the February rainfall brought district reservoirs up to about 90% of average storage for March 1, 2009. The carryover storage would

**Figure I-1.1 Historical Santa Clara Subbasin Groundwater Elevations, Index Well 07S01E07R013**

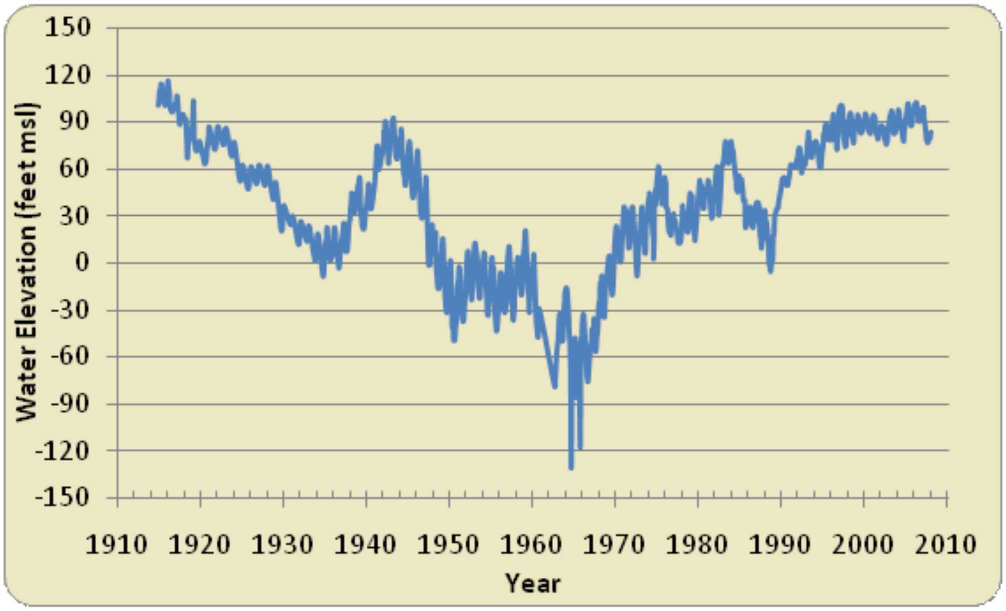


**Figure I-1.2 Historical Coyote Subbasin Groundwater Elevations, Index Well 09S02E02J002**

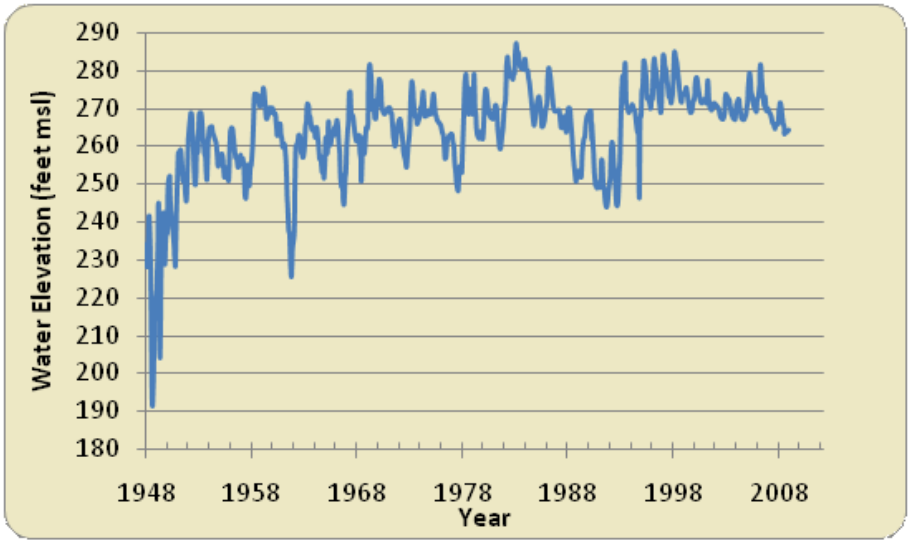
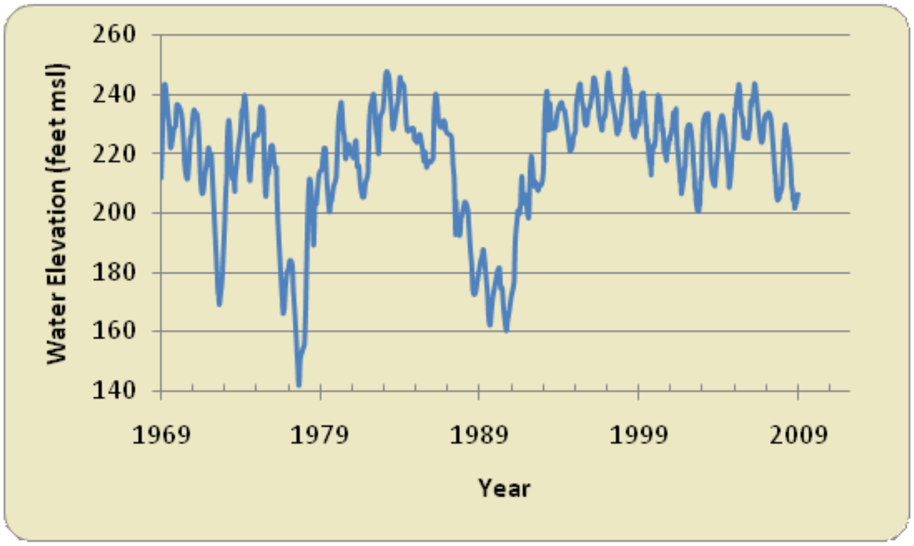


**Figure I-1.3 Historical Llagas Subbasin Groundwater Elevations, Index Well 10S03E13D003**



be much lower if not for water intentionally retained in the Anderson-Coyote Reservoir system in anticipation of planned facility shut-downs and San Luis Low-point conditions. Two local reservoirs are still at very low levels for this time of year: Chesbro at 42% of average, and Lexington at 54% of average.

While reservoirs are a visible indicator of our local water supply, the majority of our local water reserves lie hidden beneath our feet in our groundwater aquifers. Because the groundwater subbasins can store three times more water than all of the local surface water reservoirs combined, Santa Clara County depends on maintaining adequate storage in the subbasins in wet and average years to get through extended dry periods like these past three years. Groundwater storage dipped by about 22,000 acre-feet in 2008 to about 282,000 acre-feet of operational storage countywide. This storage level corresponds to a “moderate” carryover condition as per the district’s 2009 Contingency Plan Program Guidelines. As per those guidelines, the district had a 10% demand reduction goal in 2008; actual savings achieved are estimated to be 6.5% countywide.

Groundwater elevations, an indicator of groundwater trends and conditions, are shown for each of the three local groundwater subbasins in Figures I-1.1 through I-1.3. Groundwater pumping in 2008 is estimated to be lower than in 2007 in Zone W 2, as shown in Table I-1.1.

**Table I-1.1 Historical Groundwater Production by Water Charge Zone**

| | *In Acre Feet* | | | | | |
|---|---|---|---|---|---|---|
| **Charge Zone** | **Zone W-2 Use** | | | **Zone W-5 Use** | | |
| **Year** | **Agricultural** | **Non-Agricultural** | **Zone Total** | **Agricultural** | **Non-Agricultural** | **Zone Total** |
| 1981 | 8,623 | 151,338 | 159,962 | | | |
| 1982 | 6,334 | 135,039 | 141,373 | | | |
| 1983 | 5,612 | 147,121 | 152,733 | | | |
| 1984 | 6,307 | 172,301 | 178,608 | | | |
| 1985 | 6,214 | 174,851 | 181,065 | | | |
| 1986 | 5,505 | 168,703 | 174,208 | | | |
| 1987 | 5,922 | 165,558 | 171,479 | | | |
| 1988 | 5,523 | 150,262 | 155,785 | 24,955 | 20,875 | 45,830 |
| 1989 | 4,805 | 84,005 | 88,810 | 24,389 | 17,148 | 41,538 |
| 1990 | 4,797 | 101,923 | 106,719 | 24,884 | 17,652 | 42,537 |
| 1991 | 3,791 | 88,422 | 92,212 | 28,313 | 16,884 | 45,198 |
| 1992 | 3,476 | 103,728 | 107,204 | 30,144 | 17,484 | 47,628 |
| 1993 | 3,086 | 101,851 | 104,937 | 27,761 | 18,233 | 45,994 |
| 1994 | 2,989 | 119,995 | 122,984 | 30,371 | 18,926 | 49,297 |
| 1995 | 2,458 | 110,215 | 112,673 | 29,080 | 19,202 | 48,282 |
| 1996 | 2,580 | 109,916 | 112,496 | 29,887 | 19,787 | 49,674 |
| 1997 | 1,910 | 118,550 | 120,460 | 32,746 | 21,710 | 54,456 |
| 1998 | 1,101 | 99,210 | 100,310 | 25,861 | 20,009 | 45,870 |
| 1999 | 1,087 | 106,403 | 107,490 | 29,144 | 23,767 | 52,910 |
| 2000 | 972 | 112,399 | 113,371 | 26,920 | 24,537 | 51,457 |
| 2001 | 752 | 114,606 | 115,358 | 28,510 | 25,437 | 53,947 |
| 2002 | 707 | 103,952 | 104,659 | 27,537 | 23,787 | 51,324 |
| 2003 | 447 | 96,208 | 96,656 | 25,964 | 24,256 | 50,220 |
| 2004 | 579 | 105,137 | 105,716 | 27,634 | 25,533 | 53,167 |
| 2005 | 826 | 86,640 | 87,467 | 25,458 | 25,237 | 50,695 |
| 2006 | 429 | 82,195 | 82,624 | 24,420 | 28,616 | 53,036 |
| 2007 | 1,087 | 108,748 | 109,835 | 27,660 | 31,424 | 59,084 |
| 2008 | 800 | 106,100 | 106,900 | 28,400 | 32,800 | 61,200 |

2008 values are estimated

The district's groundwater subbasins have been managed and operated to maintain a reserve in case of drought or outage. This reserve has been called upon, reducing groundwater storage an estimated 22,000 acre-feet over the course of 2008. While groundwater levels in both North and South County have declined, levels in most areas of North County remain well above subsidence thresholds, which are minimum levels to be maintained in order to prevent the resumption of land subsidence. The estimated end-of-2008 carryover in North County is 256,000 acre-feet.

In contrast, South County groundwater subbasins are the sole source of drinking supply, are much smaller in size than the North County subbasin, and are used primarily to meet current demands and less as a backup reserve for dry years. The estimated end-of-2008 carry-over storage is 26,000 acre-feet, and declining groundwater levels are of concern. Staff is closely monitoring groundwater elevations, especially in the Coyote subbasin, where groundwater extraction has been increasing in the last few years, and in the Morgan Hill area of the Llagas subbasin.

## I-2 Water Supply and Use

Managing groundwater is the reason the district was formed and it remains the district's most important mission. Local groundwater resources make up the foundation of district water supply, but they need to be augmented by the district's comprehensive water supply management activities in order to reliably meet the needs of county residents, businesses and agriculture. These activities include direct and in-lieu groundwater recharge, water use efficiency, additional storage and supplemental water supplies.

**Table I-2.1 Actual 2007 and Estimated 2008 Water Use in Santa Clara County**

| | In Acre Feet | |
|---|---|---|
| **Water Use** | **Actual 2007** | **Estimated 2008** |
| Groundwater | 168,920 | 168,000 |
| Treated Water | 131,420 | 125,000 |
| District Surface Water Deliveries | | |
| (i.e., raw water) | 5,320 | 3,000 |
| SFPUC Supplies to Local Retailers | 60,690 | 60,000 |
| SJWC and Stanford Water Rights | 5,350 | 8,000 |
| Recycled Water | 16,910 | 17,000 |
| **Total Water Used in Santa Clara County** | **388,610** | **381,000** |

Estimated 2008 use rounded to the nearest thousand

## *Water Use*

Total water usage in Santa Clara County was estimated to be 381,000 acre-feet in calendar year 2008. Without the district's and its water retailers' commitments to conservation, countywide water demand in 2008 would have been 43,000 acre-feet more. In addition to reducing dry-year water needs, conservation in wet years allows the district to store water supply for later use. Saving water is a good idea, wet year or dry. Table I-2.1 shows water use in Santa Clara County in both 2007 and 2008.

## *Water Supplies 2008*

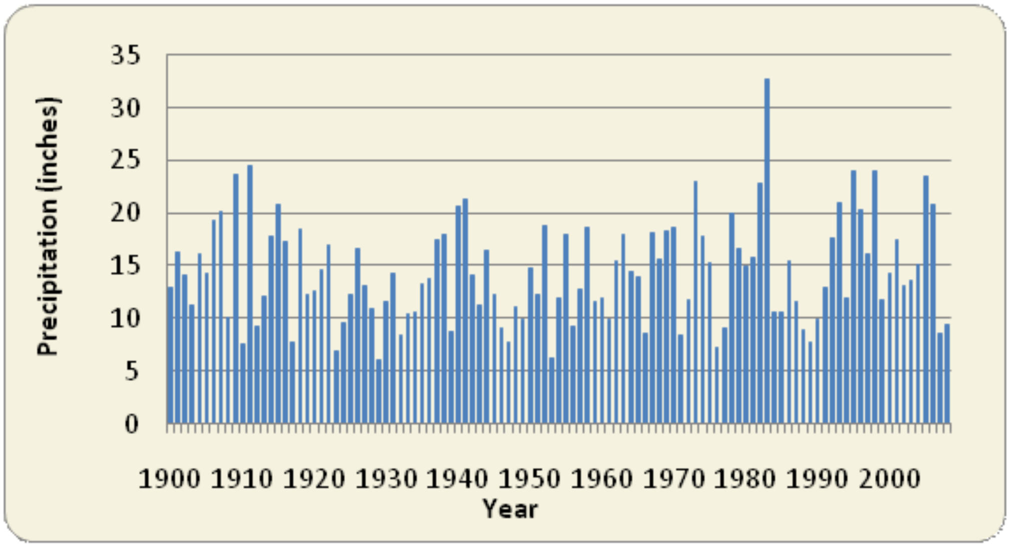
The year 2008 marked the second year of low precipitation statewide, with spring months the driest in recorded history and very low snowmelt runoff to fill reservoirs. The state's major reservoirs were at about one-third capacity in late 2008 at a time when they would typically be at about two-thirds. State officials say that even if we were to get one extremely wet winter, it would not be enough for storage levels to recover.

Low storage levels and restrictive Delta export rules reduced imported supply allocations in 2008 and reduced allocations will likely continue into the future. In December 2008, United States Fish and Wildlife issued a new Biological Opinion and Incidental Take Statement for the effect of Coordinated Operations of the federal Central Valley Project (CVP) and State Water Project (SWP) on Delta smelt. It is estimated that CVP and SWP supplies could be reduced by as much as 30% in 2009 and beyond because of the pumping restrictions imposed to protect the Delta smelt. The water supply impacts of this 2008 set of regulatory measures and other new measures (such as the pending Biological Opinion on salmon) to protect the Bay-Delta ecosystem and its fisheries will likely further impact district water supply programs and operations. For example, with reduced imported water allocations in 2008, the district was unable to operate a managed recharge program at full capacity.

Imported water supplies benefit groundwater resources both by direct recharge into the groundwater subbasins and through the district's treated water sales which serve as in-lieu recharge. The district operates three water treatment plants and sells treated water to nine of the 13 water retailers located within Santa Clara County. Additionally, eight water retailers purchase water from the City and County of San Francisco. Without these alternative supplies, groundwater pumping would have exceeded sustainable groundwater extraction levels.

Rainfall locally in 2008 was 9.34 inches or 64% of long term average, as shown in this graph of San Jose rainfall gage Station 86 (Figure I-2.1). While local weather conditions were not as dry as statewide, district reservoirs were still below normal with the exception of Coyote and Anderson reservoirs. These two reservoirs were operated to maintain higher storage levels to help mitigate for adverse impact of very low water levels at San Luis Reservoir, and for planned facility shutdowns for construction and planned maintenance. The district experienced the low-point condition in San Luis Reservoir, which impacted the district's CVP supply, from early August through November 2008 and coped with water quality issues by delivering a blend of local and imported water supply to the water treatment plants.

**Figure I-2.1 San Jose Rainfall (Station 86)**



## Storage

Although the groundwater subbasins are the district's largest water storage facility, the limiting factor of providing a reliable water supply in drought periods is the overall capacity and capability to operate a conjunctive use system of surface and ground water supplies. Most of the local reservoirs were sized for annual operations, storing water in winter for release to groundwater recharge in summer and fall. The exception is the Anderson-Coyote reservoir system, which provides valuable carryover of supplies from year to year and can serve as a backup supply source to the district's water treatment plants when imported water deliveries are curtailed.

As part of its annual operations planning, the district routinely opts to carry over a portion of its imported water supplies from one contract year to the next. Even though the amount is often limited by state or federal project operators, it provides cost-effective insurance against a subsequent dry year. The district may also hedge against shortages by taking deliveries of available temporary flood flows from the Delta early in the year, before imported water contract allocations and local hydrology are known. Additionally, the district has invested in a water banking program at the Semitropic Water Storage district which provides 350,000 acre-feet of out-of-county water storage capacity. Together with water transfers and exchanges, this additional storage helps the district manage uncertainty and variability in supply as each water year develops. Table I-2.2 show calendar year activities for 2007 and 2008, including reservoir operations, raw water conveyance, treated water production, and groundwater recharge.

Although groundwater storage reserves were depleted by 22,000 acre-feet in 2008, the end-of-2008 storages are sufficient to meet next year's water needs in compliance with board Ends Policies. The district is in comparatively good shape starting out calendar year 2009 because of its diversified mix of imported and local supplies, its investments in water conservation, recycling and groundwater banking programs, its integrated system of surface and groundwater management and replenishment of local groundwater reserves. In 2008, the district board continued its call for 10% voluntary conservation and brought in Semitropic Bank Water to assist in buffering local reserves. Through these actions, combined end-of-year carryover from groundwater storage remains at approximately 282,000 acre-feet.

**Table I-2.2 Surface Water Supply, Use and Distribution**

| | | | In Acre Feet | |
|---|---|---|---|---|
| | | | Actual 2007 | Estimated 2008 |
| **District Surface Water Supplies** | | | | |
| Local Surface Water | | | | |
| | Net Inflow (*) | | 10,580 | 61,160 |
| | Releases from (+) or additions to (-) surface water storage | | 20,640 | -6,270 |
| Imported Water | | | | |
| | Prior Year Carryover | | 40,260 | 36,180 |
| | Delta flood flows | | 4,840 | 0 |
| | State Water Project Contract Allocation | | 60,000 | 35,000 |
| | San Felipe Division Contract allocation | | 114,050 | 110,740 |
| | Semitropic Water Bank Withdrawals | | 20,000 | 10,000 |
| | Water transfers and exchanges | | 3,570 | 18,450 |
| | | Returned to district from SPPUC via intertie | 0 | 290 |
| *Total District Surface Water Supplies* | | | *273,940* | *265,550* |
| **Distribution of District Surface Water Supplies** | | | | |
| | To Groundwater recharge | | | |
| | | Santa Clara Subbasin | 58,000 | 51,060 |
| | | Coyote Subbasin | 14,690 | 16,700 |
| | | Llagas Subbasin | 18,720 | 21,530 |
| | To Treated Water | | 131,420 | 125,050 |
| | To Surface Water Irrigation | | 5,320 | 3,410 |
| | To Environment | | 3,920 | 9,510 |
| | To Semitropic Water Bank | | 3,690 | 6,630 |
| | To Imported Water Carryover | | | |
| | | Used by district | 36,180 | 30,980 |
| | | Returned to SWP/CVP | 0 | 680 |
| | To Water Transfers & Exchanges | | 2,000 | 0 |
| | | Returned to SFPUC via intertie | | |
| *Total Distribution of District Surface Water Supplies* | | | *273,940* | *265,550* |
| **Other Surface Water Supplies** | | | | |
| San Jose Water Co. & Stanford University | | | 5,350 | 8,170 |
| Recycled Water (including district) | | | 16,910 | 16,880 |
| SFPUC Deliveries to Retailers | | | 59,710 | 58,780 |
| *Total Other Surface Water Supplies* | | | *81,970* | *83,830* |
| | | | | |
| **Total Managed Surface Water Supplies** | | | **355,910** | **349,380** |

(*) Net inflow is the total inflow from all reservoirs minus evaporation

# II

# Future Water Requirements and Water Supply Availability

As the water management agency and principal water wholesaler for Santa Clara County, the district is responsible for planning for the water supply of the county to meet current and future demand in collaboration with San Francisco Public Utilities Commission and retail agencies in the county.

Water supply reliability includes the availability of the water itself as well as the reliability and integrity of the infrastructure and systems that capture, store, transport, treat and distribute it. The district strives to meet water demand under all hydrologic conditions, including satisfying its treated water contracts for deliveries to the retail water agencies. As the groundwater manager for the county, the district's goal is to ensure that adequate groundwater reserve is available for the future.

Since water supplies available to the county are obtained from both local and imported sources, the district's water supply is a function of the amount of precipitation that falls both locally and in the watersheds of Northern California. The supply available is also a function of the facilities in place to manage the supply. Sources of water supply in northern Santa Clara County (North County) consist of locally developed and managed water, recycled water, and water imported by the district via the SWP and the federal CVP, as well as supplies to some of the retail agencies from the City and County of San Francisco's regional water system (Hetch Hetchy). Southern Santa Clara County (South County/Coyote Valley) is supplied by locally developed and managed water, recycled water, and CVP water.

## II-1 Projected Future Water Supply Availability and Demand

### *Near-term Water Supply Availability*

District staff begins preparing the district's Annual Water Supply Operations and Contingency Strategy for the upcoming calendar year in the fall of each year. The strategy is composed of several operations and water supply management scenarios that account for the probable range of water supply conditions that the district can expect in the upcoming year. These variable conditions include precipitation, both locally and in the Sierra, as well as imported supplies. Local precipitation and runoff impact our local reservoir storage, stream flow, and natural recharge of the groundwater subbasins. The quantity of precipitation in the Sierra and the timing of snowmelt impact the district's imported water supplies which are conveyed through the Sacramento-San Joaquin Delta. Other factors impact the district's water supply as well including infrastructure and facility limitations, contractual obligations, and regulatory, institutional and legal constraints.

Of particular concern this year is back-to-back dry years that placed the state squarely in a drought, coupled with restrictive Delta export pumping rules that reduced SWP pumping capacity by about 30%. Taking these factors into account, state water officials announced in February 2009 that initial SWP water allocation for 2009 would be 15% of contract amount, the second lowest level in the history of the project. The U.S. Bureau of Reclamation followed suit, based on runoff forecasts from the state and projected a 50% CVP allocation for municipal and industrial (M&I) uses and 0% allocation for agricultural use. With the February storms, SWP allocations were raised to 20% on March 18, 2009. However, state water officials cautioned that drought conditions still prevail in California requiring vigilant conservation of water in our homes, businesses and farms.

In addition to low imported water allocations, regulatory rules imposed on the SWP and CVP have the potential to further impact district water supply and operations. Because specific Delta export pumping restrictions depend on Delta flow and fisheries conditions that are unpredictable, the SWP and CVP will be unable to finalize their annual allocations until later in the year, potentially as late as July. Historically, allocations were typically finalized in mid-April, so the 2008 Biological Opinion on Delta smelt significantly extended the period of supply and operational uncertainty. In addition, restrictions imposed on the Delta export pumps will increase the draw on San

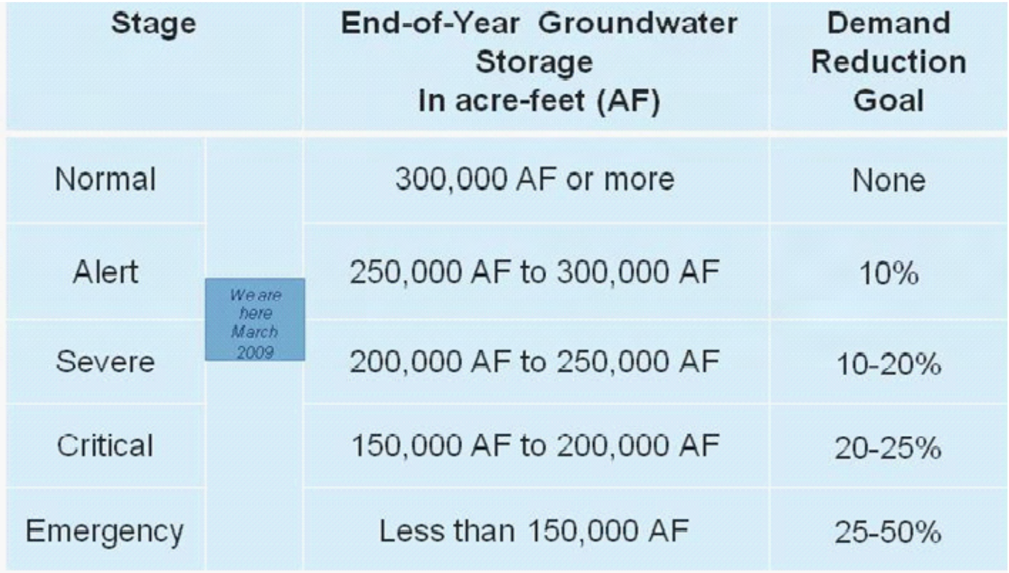
Luis Reservoir and could result in June statewide water demands exceeding the allowable withdrawal rate from the reservoir. The imported water projects may be unable to meet delivery requests during this time period, especially if summer 2009 weather is hot. The district may be unable to meet immediate surface water demands under such circumstances.

All of these factors are being taken into account in the scenarios that are part of the Water Supply Operations and Contingency Strategy. Table II-1.1 reflects the probable range of local and imported surface water supplies that the district currently expects in calendar year 2009. Table II-1.2, 2009 Contingency Plan Program Guidelines, shows end-of-year groundwater carryover storage for different water supply scenarios. District groundwater reserves are managed to supplement available supplies during dry periods. As shown in Table II-1.2, changing groundwater levels trigger different responses and actions to avoid and minimize water shortages. The strategy will be continuously updated throughout the year to account for operations to date and changing, real-time conditions. The operations and contingency strategy will be used to guide the management and operation of district water supplies and facilities to achieve board Ends Policy E-2.1.2 “Water supply is reliable to meet current demand.”

**Table II-1.1 Projected 2009 Surface Water Supply in Acre Feet**

| | Average Year | Dry Year |
|---|---|---|
| Imported Water | 98,000 - 103,000 | 80,000 |
| Local Surface | 55,000 | 30,000 |
| **Total** | **153,000 - 158,000** | **110,000** |

**Table II-1.2 2009 Contingency Plan Program Guidelines**



| Stage | | End-of-Year Groundwater Storage In acre-feet (AF) | Demand Reduction Goal |
|---|---|---|---|
| Normal | | 300,000 AF or more | None |
| Alert | We are here March 2009 | 250,000 AF to 300,000 AF | 10% |
| Severe | | 200,000 AF to 250,000 AF | 10-20% |
| Critical | | 150,000 AF to 200,000 AF | 20-25% |
| Emergency | | Less than 150,000 AF | 25-50% |

Under the 2009 average year scenario, total supplies would still be below average and the district would have to utilize the actions available in the district's 2009 Contingency Plan Program Guidelines. As illustrated in Table II-1.2, under the average year scenario, the end-of-year groundwater storage is estimated at 270,000 acre-feet in the "moderate" stage and staff would recommend the board to continue with a conservation target of 10%. In addition, the district would need to draw upon banked supplies at Semitropic of up to 31,500 acre feet in order to increase the 2009 groundwater recharge program, or to have any imported water carryover going into 2010.

Under the dry year scenario, total supplies would be limited and the district would have to utilize the actions as shown in Table II-1.2 by making maximum withdrawals from Semitropic of 31,500 acre-feet and withdrawals from local groundwater reserves. The estimated end-of-year groundwater storage would decline to 230,000 acre-feet, triggering a "severe" stage in the Contingency Plan guidelines. Under this scenario, staff would recommend the board to adopt a conservation target between 10% and 20% and to implement an intensified public education and outreach program.

On Feb. 27, 2009, Governor Schwarzenegger proclaimed a state of emergency and ordered immediate action to manage the crisis brought on by a third consecutive year of drought. The governor requested, among other activities, that all urban water users immediately increase water conservation activities in an effort to reduce individual water use by 20%. If, by March 30, 2009, the emergency conditions have not been sufficiently mitigated, the governor will consider additional steps including the institution of mandatory water rationing and mandatory reduction in water use.

In late March, the district board of directors will consider establishing a level of extraordinary conservation or water use reduction goal, consistent with the 2005 district Urban Water Management Plan (UWMP) and Contingency Plan guidelines. Immediate aggressive conservation would reduce water demands in the county and protect local water reserves for future use if the drought conditions last beyond 2009.

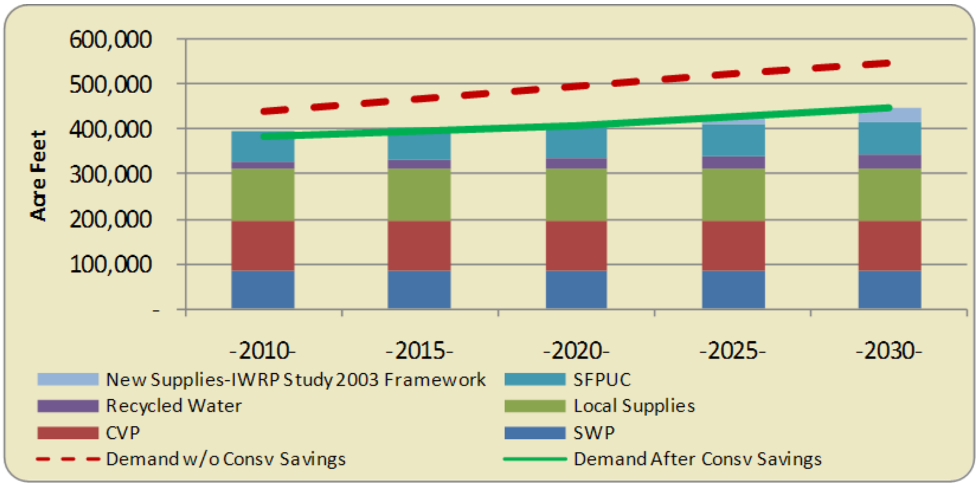
## *Long-Term Projected Demand and Water Supply Outlook*

The district updates its Urban Water Management Plan every five years in compliance with the California Urban Water Management Planning Act.

The Association of Bay Area Governments (ABAG 2005) projects that the population of the county will increase to 2,267,100 by the year 2030, almost a 35% increase over the year 2004 population. This increasing population and significant job growth will increase demand for water.

Overall, countywide water demand is projected to increase by about 70,000 acre-feet or 18% over the next 25 years, even with increases in new water conservation efforts. The district and most major retail water agencies partner in regional implementation of a variety of water use efficiency programs to permanently reduce water use in the county. As shown in Figure II-1.1, the 2030 demand with conservation programs in place is projected to be approximately 450,000 acre-feet. The conservation efforts planned between now and 2030 are anticipated to offset over half of the additional water supplies needed to meet increased demand.

**Figure II-1.1 Santa Clara County, Supply and Demand Comparison, Normal Year**



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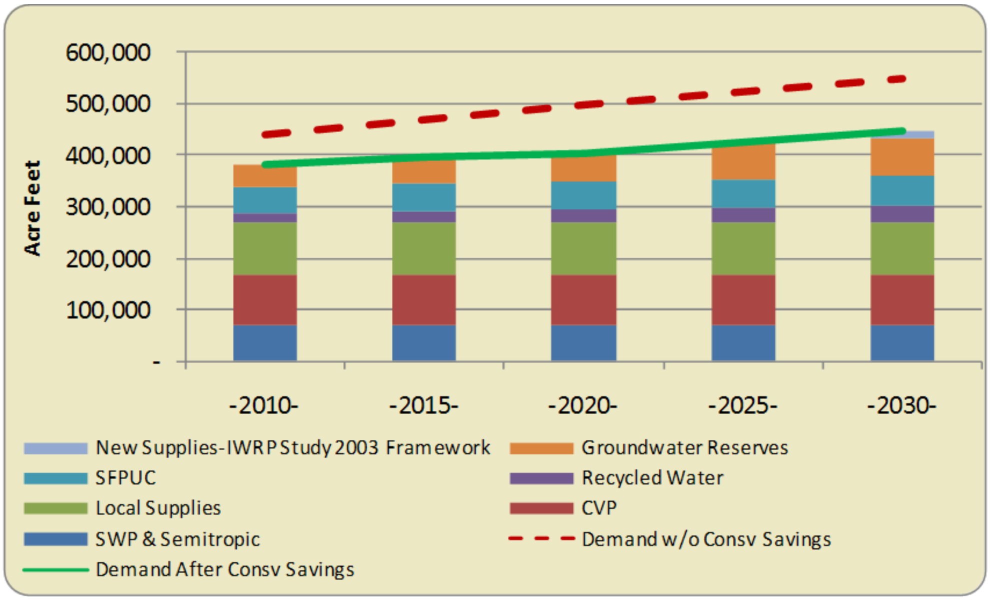
[1] Urban Water Management Plan, 2005, Santa Clara Valley Water District.

The district developed an Integrated Water Resources Planning (IWRP) process as an evaluation framework for making investment decisions on long-term water supply management under an environment of continual change and uncertainties. Stakeholders participating in the 2003 IWRP Study assisted the district in developing the planning framework, assessed risks to the water supply, identified and analyzed new water resource options, and developed near-term (to year 2010) water supply recommendations and long-term (to year 2020 and 2040) possible responses to risk scenarios.

The IWRP planning framework includes various modeling tools to analyze historical hydrologic and operations data and to help characterize future water supply. Modeling results indicate that the county's water supply system is more vulnerable to successive dry years such as those that occurred in 1928-1934 and 1987-1992 which deplete water storage reserves in local and state reservoirs and in the groundwater subbasins. In wet years, the district stores surplus supplies for use during drought periods. Supplies in excess of demand are stored in the groundwater subbasins and/or banked outside the county (Semitropic Water Bank). This operational strategy is limited by groundwater subbasins recharge capacity, distribution system capacity, and various contractual and infrastructure restrictions. Figure II-1.2 compares long-term supply and demand for multiple dry years.

**Figure II-1.2 Santa Clara County, Supply and Demand Comparison, Multiple Dry Years**



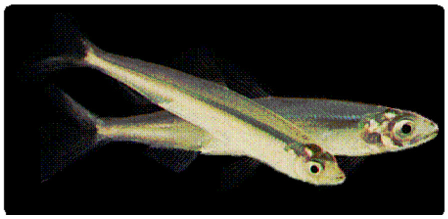
## II-2 Conclusions, Findings and Challenges to Future Water Supply Availability

The 2005 UWMP concluded that the district cannot meet demands through 2030 without significant investments to protect and augment the district's current mix of water supplies. New restrictions on pumping from the Delta, local storage, and operational constraints, combined with continued increases in water demands, further emphasize the need for additional investments to protect and augment supplies. Investments are necessary to protect existing water supply sources and infrastructure. In addition, the district also must make investments in a mix of new all weather supplies, storage, dry year transfers or option agreements and maximize opportunities for water conservation.

The district confronts a number of long-term risks to water supply reliability. The state's water supplies have been negatively impacted in both the near and long term by changes in operations for fisheries and as a consequence of climate change. On Dec. 15, 2008, the USFWS released its final Biological Opinion on the CVP and SWP Operations Criteria and Plan (OCAP), concluding that implementation of OCAP would jeopardize the continued survival of Delta smelt. Operational modeling of the "Reasonable and Prudent Alternatives" to protect Delta smelt takes into account certain triggers and adaptive management decision-making, and therefore water supply costs have been estimated for "Most Likely" and "Worst Case" implementations. In dry years, the reduction in combined CVP and SWP deliveries ranges from 600,000 acre-feet to 1.08 million acre-feet compared to previous regulatory conditions set by the State Water Resources Control Board (D1641). In average years, the reduction in combined CVP and SWP deliveries ranges from 1.09 to 2.06 million acre-feet. In both year types, the impacts are greater on the SWP than the CVP (80% of the impact in average years; 55% of the impact in dry years). For the district, the USFWS Delta smelt Biological Opinion reduced combined imported water supplies from both projects by approximately 15% to 30%.

A second Biological Opinion is expected to be issued in June 2009 by National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service to address the effects of OCAP implementation on salmonids. Other actions may also be taken by the Department of Fish and Game to protect long-fin smelt under the California Endangered Species Act, and by the State Water Resources Control Board, which has issued a notice of hearings in Spring 2009 to update its Water Quality Control Plan for the Bay-Delta Estuary.

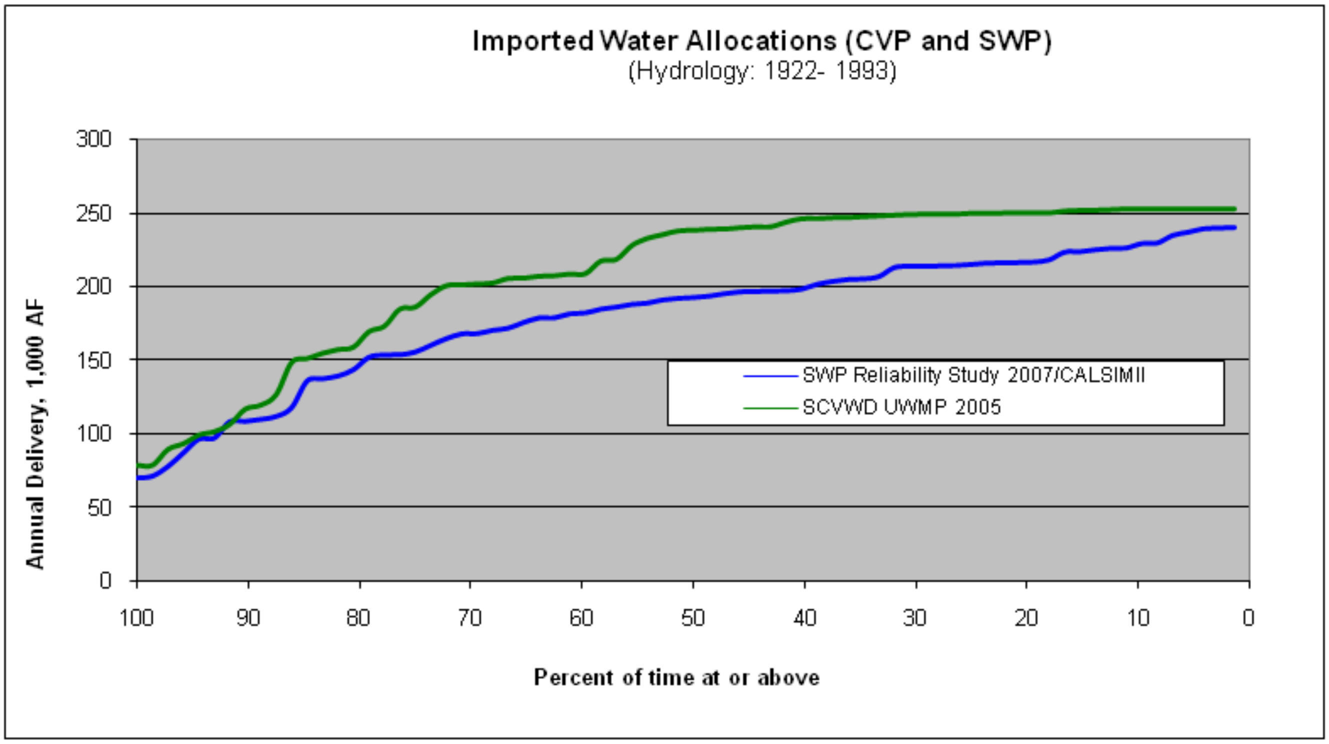
Projected imported supplies have decreased since the analysis performed for the UWMP 2005. Near term supply allocations based on the Department of Water Resources (DWR) State Water Project Delivery Reliability Report 2007 (published in August 2008) and corresponding CALSIMII modeling runs for CVP allocations and those used in the development of the UWMP 2005 are depicted in Figure II-1.3. The gap between the two lines represents the reduction in the amount of anticipated imported water supplies (based on historic hydrology) for combined SWP and CVP supplies. In addition to the impact of reduced annual supplies, the district will sustain cumulative impacts from reduced supplies in the average and wetter years that historically were available for the district to store either locally or out-of-county as reserves for the drier years.



Delta Smelt
(Hypomesus transpacificus)

Chinook Salmon
(Oncorhynchus tshawytscha)

**Figure II - 1.3, Change in Imported Water Allocations (combined SWP and CVP)**



Additionally, the San Francisco Public Utilities Commission's (SFPUC) Program Environmental Impact Report on the Water System Improvement Program, adopted in October 2008, indicate that San Francisco will not meet forecasted 2030 purchase requests and therefore, SFPUC supplies in Santa Clara County will be below levels assumed in the district's most recent UWMP. Furthermore, SFPUC supplies to cities of San Jose and Santa Cara will continue to be temporary and interruptible after the contract renewal process completes by June 2009. Any reductions in SFPUC supplies would likely result in increased demand and dependence on district supplies and possibly, increased groundwater pumping in the Santa Clara Valley groundwater subbasin.

Hydrologic, institutional and regulatory risks and uncertainties influence the projections of both local and imported water supplies and the anticipated reliability of those supplies. IWRP Study 2003 identified risks and uncertainties that could affect the district's water outlook and used a risk analysis model to evaluate water shortage impacts under different risk scenarios. Risks evaluated include random occurrences of hazards and extreme events, climate change, more stringent water quality standards, fisheries protection measures, no expanded capacity of the State Water Project Banks pumping plant, and demand growth greater than projected. Results of this analysis indicate that Delta levee failure risk and climate change are among the district's top risks to water supply.

The district manages and addresses risks and uncertainties by building a diversified portfolio of water supply alternatives. This portfolio of existing dry year supplies and new water supply investments is intended to meet at least 95% of future water demands. This portfolio will be reviewed and updated in a Water Supply and Infrastructure Master Plan scheduled for completion in 2011. To secure long term water supply reliability and regulatory certainty, the district also needs to continue to engage in statewide, regional and local collaboration and partnerships.

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# III Programs to Sustain Supply Reliability

## III-1 Activities to Protect and Augment Water Supplies of the District

In June 2008, the Santa Clara Valley Water District Board of Directors adopted groundwater production charges and a treated water surcharge, as recommended in the 2008 annual report, to finance a program of activities to protect and augment water supplies of the district to be undertaken in fiscal year (FY) 2008-09. The program is comprised of activities and service functions in the areas of operations, maintenance and construction, as illustrated in Table III-1.1, designed to work together to meet board adopted end goals and policies.

**Table III-1.1 Purpose and Intent: Manage and Provide a Sustainable Water Supply**

| **Inputs** | **Activities to protect & augment water supplies** | | **End goals & benefits from services provided** |
|---|---|---|---|
| | | **Services and functions** | |
| • Sources of water supplies<br>• Revenue from groundwater production charges & other sources of funding | Operation | • Planning & development<br>• Water purchases<br>• Transmission<br>• Treatment<br>• Distribution<br>• Storage & recharge<br>• Conservation, water recycling & desalination<br>• Mitigation | • Meet or exceed water quality standards<br>• Reliable supply to meet current demands<br>• Reliable supply to meet future demands<br>• Diversified supply sources<br>• Protect and sustain water resources<br>• Expand water recycling<br>• Maximize water conservation<br>• Mitigate impacts |
| | Maintenance | • Surface & ground water resources protection & management<br>• Asset protection & management | |
| | Construction | • Capital improvement<br>• Infrastructure management | |

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[2] The budget document is available on the district web site: www.valleywater.org.

The FY 2008-09 groundwater production charges were established in accordance with the FY 2008-09 budget[2] approved by the board. Consistent with the adopted budget, the groundwater production charges reflected reductions in internal costs through a net elimination of seven (out of a district-wide total of 28) vacant positions within the water utility, reducing overtime by half, as well as numerous operational changes to constrain costs and streamline business operations.

Organizational changes within the Water Utility came into effect at the beginning of FY 2008-09, as part of the district-wide effort to streamline and sustain programs and services to achieve the district's mission while faced with rising costs and a down economy.

As of the close of the second quarter of FY 2008-09, most of the Water Utility operations and capital programs are on track in meeting annual milestones in: treated water deliveries and water quality, infrastructure maintenance, meeting current water demands, implementing water use efficiency programs, planning for future water supply and completion of key budgeted water supply capital projects. Adjustments to project schedules or budgets were needed, however, in the seismic stability evaluation of several dams and in the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE).

As described in Section IV of this report, the recommended FY 2009-10 charges reflect additional reductions in internal costs to accommodate expected loss in revenue from reduced water use and increased costs to mitigate for water supply shortages. The vast majority of the cost reductions are assumed to occur through drastic reductions in external services and supplies, as well as changes in operations, maintenance and construction programs.

Because of the district's sound water supply investments in the past and prudent measures taken to address challenges, the district is able to lessen the water supply and financial impacts from the drought and regulatory restrictions on imported water. Following are highlights of accomplishments in some of the Water Utility program areas to maximize conservation and recycling, protect groundwater resources and existing supplies and infrastructure, as well as to plan and develop long-term supplies to meet future demands.

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[2] The budget document is available on the district website: www.valleywater.org

## Water Conservation[3]

The district's water conservation program had a successful year in terms of both program participation and water savings (roughly 42,500 acre-feet/year). Combining education, technical assistance and financial incentives, the district is currently implementing over 20 different programs with most continuing to achieve high levels of participation – high-efficiency washing machines (over 10,000 machines), high-efficiency toilets (approximately 4,500 toilets), and Water Wise House Calls (nearly 3,000 homes), in 2008 alone.

In addition to the established programs, the district continues to offer a variety of new technologies and programs, including: weather-based irrigation controllers, water efficient landscape rebates, demand initiated recharge water softener rebates, and cooling tower conductivity controllers.

To promote the board's adopted voluntary 10% water use reduction goal, this year marked the first year that the district launched an annual water conservation campaign. The 12-month public outreach campaign included television, radio, newspaper, multi-lingual outreach and many other components such as bill inserts, press releases, and restaurant signage. The campaign along with numerous newspaper articles regarding the county's water supply resulted in over 2,700 calls to the water conservation hotline. This high call volume represents the highest recorded annual number of calls and a 115% increase compared to the previous year. In tandem with the annual water conservation campaign, the district continued its partnership with the Bay Area regional water conservation program and campaign which encouraged residents and businesses throughout the Bay Area to conserve water.

Water Wise House Call

Steady progress was made on many medium to long term water use efficiency planning efforts. The completion of the Water Conservation Marketing Plan will assist in the development of effective multi-year water conservation marketing strategies. Significant progress was also made toward the completion of the Water Conservation Strategic Plan which will be completed in FY 2008-09.

In addition to these planning efforts, work began on updating the district's From Watts to Water report. Published in FY 2006-07, From Watts to Water describes the energy and water relationship and estimates the greenhouse gas reduction resulting from conservation and recycling programs.

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[3] See *Water Use Efficiency Program Year End Report, FY 2007-2008*, for a complete listing of accomplishments

### *Recycled Water and Alternative Supplies Development*

Recycled water uses countywide remained steady at 16,732 acre-feet/year (FY 2007-08), showing no increase from the past year, and an actual slight decrease in usage, about 200 acre-feet less compared to the same period last year. The percentage of recycled water use relative to total water used in the county is approximately 4%.

The district continues to discuss partnership opportunities in the South Bay Water Recycling program. Water quality improvements are needed to significantly expand recycled water use to meet the future board Ends Policy targets (and the City of San José Green Vision Goals). The South Bay Advanced Recycled Water Treatment Facility Project is in the design phase. This facility will serve both as a demonstration facility for permitting agencies, should the district embark on indirect potable reuse in the future, and as a way to improve the current quality of recycled water. In 2008, this project was authorized to receive $8,250,000 in a federal construction grant and approximately $3,000,000 in a state grant for construction.

Eagle Ridge Golf Course - Irrigated by Recycled Water

In addition, the district is continuing its participation in the Bay Area Regional Desalination Project (BARDP), as one of four partner agencies. The BARDP completed its pre-feasibility and feasibility study phases and progressed into the piloting phase, with approximately 50% of the project costs funded by a state grant. The BARDP is also authorized to receive $4,000,000 in federal funding for future phases of the project. The piloting of desalination began in FY 2007-08 and is currently underway, actually producing desalinated water. The pilot project reports will be completed in late 2009.

## Groundwater Management

Nearly half of the potable water use in Santa Clara County in 2008 was groundwater. The district has implemented numerous groundwater management programs and activities in support of board Ends Policies which state "Groundwater resources are sustained and protected for water supply reliability and to minimize land subsidence," and "The groundwater basins are aggressively protected from contamination and the threat of contamination".

Groundwater supplies and groundwater reserves are an essential part of water supply reliability, and in dry years such as these district staff performs frequent evaluations of groundwater conditions and analyses of different future scenarios in support of ongoing operations decision-making. In fact, the Contingency Plan stages and triggers are primarily dependent on estimated groundwater reserves. The district has increased the monitoring frequency at selected wells since July of 2007 to closely monitor the groundwater condition in response to dry hydrology and limited imported water deliveries. To better track groundwater conditions in a timely yet fiscally responsible manner, in 2008 the district deployed pressure transducers and data loggers in 87 wells, with telemetry equipment installed in 51 wells to permit remote retrieval of water level data. The groundwater models provide an analytical foundation by which we can assess current and expected groundwater conditions, allowing the district to effectively manage groundwater while preventing adverse impacts.

The district is also looking for ways to stretch existing water resources through initiation of a feasibility study of shallow groundwater supplies historically not used as part of the overall supply mix. Planned to be completed in 2009, this study will characterize the quality and quantity of the shallow groundwater and identify potential uses. Pending the outcome of the feasibility study, a project-specific planning document will be developed starting in 2010. In 2008 staff initiated a technical study with the United States Geological Survey (USGS) to provide the comprehensive review of current subsidence monitoring program and to update the processes for analyzing land subsidence. With the past two dry years, the potential risks of land subsidence have increased and the study with USGS will improve the district understanding of land subsidence and provide additional tools to monitor and evaluate in a more efficient and effective manner.

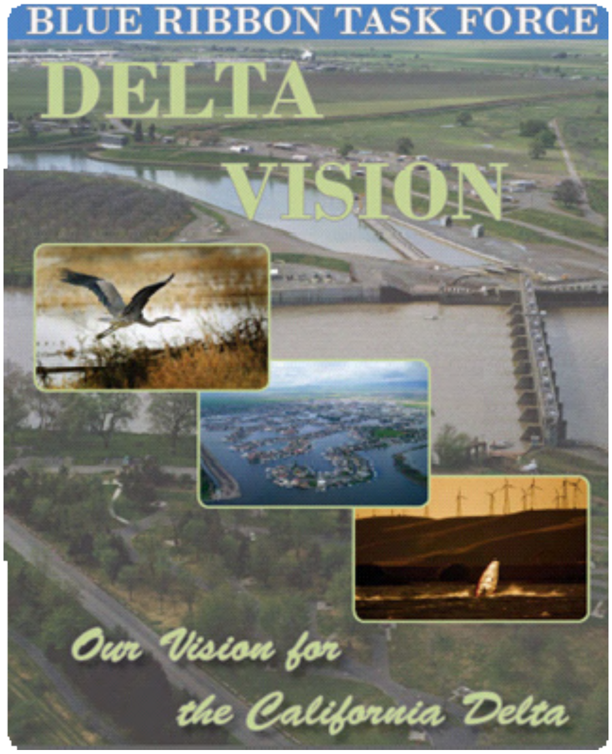
The district's first extraction wells, which will provide emergency backup and increased operational flexibility during droughts, emergencies, or treated water outages, are expected to be completed in FY 2009-10.

To help ensure groundwater remains a high-quality, viable source into the future, the district assesses current groundwater quality conditions, water quality trends, and potential threats. In 2008, district staff collected and analyzed samples from 102 wells to track existing groundwater quality. In addition, the district initiated the Groundwater Vulnerability Study to identify the relative risk of contamination from various land uses. This will allow the district to prioritize protection efforts and work with local cities and regulatory agencies to help prevent groundwater contamination. Other groundwater protection activities include evaluating the quality of water used for intentional recharge, developing guidelines for storm water infiltration, studying the groundwater quality impacts of recycled water used for irrigation, evaluating the potential to recharge groundwater with recycled water, and coordinating with regulatory agencies on high-priority contamination cases.

## *Imported Water*

Imported water constitutes approximately half of the district's annual water supplies in average years. district management and staff represent the district in various processes seeking to resolve the Delta ecosystem/water supply tug-of-war (as partially outlined below); manage the district's State Water Project and federal Central Valley Project water supply contracts and related association and operational activities; and manage water transfer/exchange opportunities (including the district's Semitropic Water Storage Bank account).

Staff serves on the steering committee and provides key technical support to the Bay Delta Conservation Plan (BDCP), and participated on the Stakeholder Coordination Group of the governor's Delta Vision process (DV). The BDCP is a Habitat Conservation Plan effort, under the federal and state Endangered Species Acts, to secure operational assurances for the State Water Project and the federal Central Valley Project. A draft BDCP conservation strategy is scheduled to be released by July 2009. A draft EIR/EIS document analyzing alternatives for a comprehensive Delta solution, as developed in the BDCP process, is scheduled for completion by the end of 2009, with a final report targeted for December 2010. District staff will continue to participate in these processes as they move forward in the legislature, the administration and various regulatory arenas.



Delta Vision Strategic Plan

In May 2008, the district board affirmed CEO interpretations[4] related to participation in the development of a Delta solution. In December 2008, the district board committed approximately $7 million to such efforts through FY 2010-11. While these processes have so far yielded recommendations for action generally consistent with district interests and input, staff will continue its engagement to promote implementation consistent with adopted district principles.

To help address impacts of the drought, the district pursued a number of transfer and/or exchange opportunities during 2008 to strengthen the district's water supply reliability. In addition, 10,000 acre-feet of water was brought back to the district from Semitropic reserves.

The year 2009 is likely to be a big year for California water. Delta processes will continue to move forward and, as they gain momentum, controversy around them will no doubt intensify. A large water bond will continue to percolate in the legislature and among potential initiative advocates. Litigation in response to the issuance of a federal Biological Opinion regarding the requirements to protect Delta smelt has already been initiated, and additional actions may be taken in court to challenge federal action on salmon and state action pertaining to the longfin smelt. The drought will continue to plague operational decision making, both locally and most particularly with regard to the district's imported supplies. Considering the critical need to maintain the district's baseline levels of imported water supplies, the district will maintain its role as a central participant in the California water community's responses to these challenges.

### *Local Water Management*

Conjunctive use of local surface and ground water constitutes the other half of annual water supplies in the county under average years. District staff operates and maintains the district's system of storage, conveyance and recharge facilities to ensure that supplies are reliable to meet demand. Staff is constantly challenged by variability and uncertainties in hydrologic conditions and imported water availability, compounded by regulatory restrictions on reservoir operation and activities in the streams and ponds. The following is an illustration of challenges in the management of local water supplies.

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[4] The board's governance policies can be found on the district web site at: *www.valleywater.org.*

The district, under the regulatory oversight of the California Department of Fish and Game (CDFG), conducts Uvas Reservoir operations under an existing Memorandum of Agreement (MOA) since 1956. In 2004, the CDFG and the National Marine Fisheries Service (NMFS) raised concerns over access to prime aquatic habitat above Uvas Reservoir for federally threatened steelhead trout. One condition of the existing MOA is a provision for trap and truck operations if it was determined that fish do not have access to habitat above Uvas Dam. In lieu of trap and truck operations, a Technical Working Group (TWG) comprised of fisheries experts from CDFG, NMFS, San Jose State University and a local non-governmental organization, Streams for Tomorrow, was formed to investigate suitable alternatives. The purpose of the TWG was to recommend operating strategies that would optimize downstream flow and temperature conditions for maintaining a healthy steelhead population in Uvas and Llagas Creeks, while considering the needs for water supply and reduced flood potential.

As a result of the TWG study, new operating strategies have been developed for Uvas and Chesbro reservoirs. The anticipated outcome is to have an approved set of operating rules in the form of a CDFG streambed alteration permit intended to replace the existing MOA, following appropriate review under the California Environmental Quality Act. It is anticipated that the proposed operating rules will be consistent with the Endangered Species Act provisions contained in the proposed Valley Habitat Plan described below.

On a broader scale, the district is working on two Habitat Conservation Plans: the Santa Clara Valley Habitat Plan (Valley HP) and the Three Creeks Habitat Conservation Plan (Three Creeks HCP). Each plan development process resulted from different activities and has different, but overlapping study areas. The district is the sole applicant for the Three Creeks HCP and is one of six local partner applicants (district, Santa Clara Valley Transportation Authority, Santa Clara County and the cities of San Jose, Morgan Hill, and Gilroy) in the Valley HP. Although both HCPs share a similar species list, the Three Creeks HCP focuses on aquatic species and the Valley HP contains both aquatic and terrestrial species. As much as possible the conservation strategies are the same in the two documents. For instance, reoperation of the Guadalupe and Coyote watershed reservoirs and fish passage improvement is the same.

Oncoynchos mykiss
(Steelhead Trout)

The Valley HP is being developed in association with the USFWS, CDFG, and NMFS in consultation with stakeholder groups and the general public to protect and enhance ecological diversity and function within more than 500,000 acres of southern Santa Clara County. The Valley HP is intended to provide a framework for the local partners and landowners to complete projects while protecting at-risk species and their essential habitats, some of which only occur in Santa Clara County.

The Three Creeks HCP was initiated as a result of the Fisheries and Aquatic Habitat Collaborative Effort[5] (FAHCE) settlement and will provide the district with incidental take permits needed to carry out the FAHCE program. Reoperation of seven of the district's reservoirs to balance the protection of fisheries with water supply needs is core to the FAHCE program. The Three Creeks HCP includes all the components of the FAHCE program as well as a suite of activities required to keep the dams and other district facilities in good operating condition. When the HCP is completed and an environmental impact report has been prepared on both the settlement agreement and the HCP (scheduled for fall 2009), the district will petition the State Water Resources Control Board to dismiss the 1996 complaint.

### *Water Quality Protection and Improvement*

The treatment process upgrades completed as part of Phase 2 of the Water Treatment Improvement Project (WTIP2) have been in operation since mid-2006 at the Penitencia and Santa Teresa water treatment plants. The levels of regulated chlorinated disinfection by-products have been reduced significantly at these plants, and the aesthetic quality of the water produced has improved noticeably. In order to ensure that all drinking water standards will continue to be met or exceeded, preliminary guidelines for the use of the new systems have been developed while further operational data is gathered.

The backup disinfection system at Rinconada, originally placed in service for several months in 2007 was again utilized for six months in 2008. Ongoing use of this system will be balanced with the need to control disinfection by-product levels.

The new water quality laboratory at the Almaden campus was completed and placed in service in the spring of 2008.

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[5] Details on FAHCE can be found on the District web site at: *http://www.valleywater.org/Water/Watersheds_-_streams_and_floods/Taking_care_of_streams/FAHCE/index.shtm.*

## *Invasive Mussels*

Since the discovery of zebra and quagga mussels in California, the district has been working to address the threat of invasive mussels with a multi-pronged approach which includes inspections, monitoring, implementation of collaborative prevention measures including public outreach and boat inspection programs, and development of a response plan. To date no mussels have been discovered in district-owned facilities or drinking water sources. The comprehensive Mussel Response Plan being developed by the district includes vulnerability assessments for all district facilities.

Mussel Monitoring Plates

The district worked with the Santa Clara County Department of Parks and Recreation to implement a mandatory boat inspection and voluntary banding program for Anderson Lake, Coyote Lake, Calero Reservoir and Stevens Creek Reservoir. The district has negotiated case-specific inspection procedures for City of San Jose parks at Lake Almaden, Santa Clara County Ski Club, and Rowing Club at Lexington Reservoir. The district board approved a cost-share agreement with East Bay Regional Parks district, Alameda County Water District, and Zone 7 Water Agency for mussel water craft inspections at Del Valle Reservoir, a State Water Project facility along the South Bay Aqueduct from which the district receives its imported supplies.

Boat Banding

Boat Inspection

## San Luis Reservoir Low Point

In mid-August, San Luis Reservoir, a primary drinking water source for the district, reached a "low point" condition. The low point condition lasted until November. Due to the increased potential for degradation of the water quality, this source was closely monitored by district staff, and source water blend changes were implemented to mitigate impacts to the two water treatment plants receiving San Luis water. During this period, the district undertook pilot testing on San Luis water to investigate modified treatment strategies to minimize adverse impacts at the water treatment plants.

Exposure of Upper Intake to San Felipe Division Due to Low Water Level at San Luis Reservoir, August 2008

## Asset Management

Significant investments to existing infrastructure for the purposes of sustaining system reliability and viability into the future have taken place over the past year. Consistent with district practices over the recent past, infrastructure investments were identified, prioritized, scheduled, and planned through systematic application of advanced asset management strategies and practices. The utility continues to use a systematic, documented approach to planning infrastructure investments by creating an Annual Maintenance Work Plan (AMWP) to guide infrastructure replacement, overhaul, and inspection activities. The AMWP is a fiscal year specific plan outlining district infrastructure investment strategy. Examples of work in the past year include:

- In December 2008 the Sunnyvale Distributary, a 33-inch treated water distribution pipeline on the west side of the Santa Clara Valley, was inspected and rehabilitated. The work performed on the Sunnyvale Distributary is one activity in a growing list of pipeline inspections and rehabilitation efforts undertaken by the utility over the past five years. Scheduled and on track for completion in February, 2009 is another significant pipeline inspection and rehabilitation effort. Approximately 8.9 miles of the Santa Clara Conduit, a 96-inch diameter raw water transmission pipeline in the San Felipe Division, will be inspected and rehabilitated. Over the past five years the district will have completed inspection of pipelines and rehabilitation of pipeline utility vaults on 63.8 miles of pipeline infrastructure out of the 143.18 miles managed at an average cost of about $177K/mile.

- Important investments continue to be made to the district's pumping system. Most notably, two pump rebuilds at the Pacheco Pumping Plant (PPP) were completed. Two additional pump rebuilds are scheduled for FY 2010-11. To date, 11 of the 12, 2000-horse power pumps at PPP have been rebuilt and soon we will embark on the second round of pump rebuilds. At Coyote Pumping Plant (CPP), rebuilds of the six, single-stage, 2000-horse power pumps is underway. Two pumps were completed in 2008 and a third is scheduled to be completed during the current budget year. The remaining three pumps will be completed by the end of calendar year 2009.

New blowoff valve installed at Pacheco Conduit, 2008

- District water treatment plants benefited from focused infrastructure investment as well. Two flocculator drive mechanisms at the Rinconada Water Treatment Plant are scheduled and on track for replacement in the current budget year. All the treatment plants have been making strategic investments in equipment replacement and renewal. Two large and several medium sized pumps have been rebuilt or replaced at the plants and all plants have completed, or have scheduled several chemical tank inspection/repair activities. Included in the tank work are the ammonia storage tanks at all three treatment plants.

New outlet pipe being installed at Lenihan Dam, Jan 2009

- Aside from investments made through the operating budget as described above, progress was made on several capital projects which directly address aging infrastructure. The Adjustable Speed Drive Replacement Project for the Pacheco Pumping Plant, Pacheco Regulating Tank Coating and Seismic Upgrade, Penitencia Backwash Pump Replacement, and the Valve Replacement Project at the Rinconada Water Treatment Plant are examples of significant investment in maintaining existing infrastructure.

- In addition, work on the Lenihan Dam (at Lexington Reservoir) outlet modification project[6] is steadily progressing. Tunneling work through the hillside is completed and a new outlet pipe is being installed.

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[6] Project details can be found on the district web site: www.valleywater.org, under the "Lenihan Dam Outlet Modification Project" link.

## III-2 Future Capital Improvement, Operating and Maintenance Requirements

For FY 2009-10 as well as the decades ahead, the highest priority work of the district's Water Utility Enterprise is to implement a program of activities to ensure that treated water quality standards are met and that water supplies are diversified and reliable to meet current and future demands. This program of operations, maintenance and capital improvement activities will require continued funding from groundwater production charges and other sources of revenue, as described in Section IV of this report.

The proposed FY 2009-10 program as shown in tables III-1.2 and III-1.3 continues to emphasize activities to protect and maintain existing water supplies and assets and to plan for contingencies, due to both hydrologic uncertainties and regulatory restrictions on imported and local supplies. The proposed program, if funded accordingly, will enable the Water Utility Enterprise to supply expected demands in the next year as well as to stay on track to plan for a reliable supply for the long-term future. The proposed program, however, does not account for additional revenue shortfalls due to extraordinary water use reduction measures or other unanticipated revenue cutbacks. In both north and south counties, certain needed work in long-term water supply planning and asset management will continue to be deferred due to insufficient financial resources.

**Table III-1.2 Operating Budget Summary**

| Operations and Operating Projects | Thousands $ | | |
|---|---|---|---|
| **Description** | **Actual FY 08** | **Adjusted FY 09** | **Projected FY 10** |
| | | | |
| **Reliable Supply of Healthy, Clean Drinking Water:** | | | |
| Drinking Water Quality | 5,650 | 5,628 | 5,957 |
| Treatment Plant Ops & Maintenance | 21,999 | 25,007 | 29,998 |
| Treated Water Transmission & Distribution | 2,821 | 2,499 | 4,393 |
| Water Supply Acquisition & Storage[1] | 7,453 | 9,545 | 7,953 |
| Imported Water Purchases | 37,205 | 41,636 | 37,539 |
| Raw Water Transmission & Distribution | 11,769 | 9,093 | 10,346 |
| Short-Term Water Supply Planning and operations | 1,250 | 1,127 | 1,254 |
| Groundwater Management | 7,403 | 6,787 | 8,521 |
| Long-term Water Supply Planning | 5,901 | 9,838 | 10,375 |
| Water Supply System Sustainability | 1,261 | 1,332 | 1,364 |
| Resource Protection | 2,925 | 3,127 | 3,680 |
| Water Recycling | 2,555 | 3,544 | 3,728 |
| Water desalination | - | - | - |
| Water Conservation | 5,968 | 7,725 | 10,046 |
| Water Utility Business Services | 10,047 | 12,848 | 12,642 |
| **Subtotal** | **124,207** | **139,736** | **147,796** |
| | | | |
| **Mitgations are implemented to Protect Watersheds, Streams** | **and Natural R** | **sources:** | |
| Mitigations to Protect Natural Resources | 2,057 | 2,360 | 2,285 |
| Climate change mitigation and adaptation | - | 333 | 322 |
| **Subtotal** | **2,057** | **2,693** | **2,607** |
| | | | |
| **Strategic Support Services** | | | |
| Strategic Support Services | 1,431 | 1,345 | 1,466 |
| Operating cost reductions | - | - | (12,500) |
| **Subtotal** | **1,431** | **1,345** | **(11,034)** |
| | | | |
| **Total Program Requirements** | **127,695** | **143,774** | **139,369** |

[1] In FY 2009-10, the capital cost component ($6.7 million) of the contract for water deliveries from the Central Valley Project will be capitalized.

**Table III-1.3 Capital Budget and Capital Improvement Plan Summary**

| **CAPITAL PROGRAM** | Thousands $ | | |
|---|---|---|---|
| **Description** | **Projected FY 2009-10** | **FY 2010-11 to 2018-19** | **Ten Year Total** |
| | | | |
| **Reliable Supply of Healthy, Clean, Drinking Water:** | | | |
| Drinking Water Quality | $ 823 | $ 77,046 | $ 77,869 |
| Facility Repair and Rehabilitation | 9,784 | 249,966 | 259,750 |
| Water Supply Acquisition and Storage | 8,921 | 101,641 | 110,561 |
| Facility Reliability Improvements | 12,652 | 146,229 | 158,881 |
| Resource Protection | 630 | 11,164 | 11,794 |
| Water Recycling and Conservation | - | 22,933 | 22,933 |
| Disaster Preparedness | - | 173,376 | 173,376 |
| **Subtotal** | **$ 32,810** | **$ 782,355** | **$ 815,164** |
| | | | |
| **Mitigations are Implemented to Protect Watersheds, Strea ns, and Natur l Resources:** | | | |
| Mitigation for Requlatory and CEQA Requirements | 3,467 | 14,241 | 17,708 |
| **Subtotal** | **$ 3,467** | **$ 14,241** | **$ 17,708** |
| | | | |
| **Strategic Support Services** | | | |
| Facilities Management | 116 | 270 | 386 |
| Strategic Support Services | 5,676 | 65,720 | 71,396 |
| **Subtotal** | **$ 5,792** | **$ 65,990** | **$ 71,782** |
| | | | |
| **Projected FY09 Carry Forward** | **$ 16,558** | **-** | **$ 16,558** |
| | | | |
| **Total Capital Program** | **$ 58,627** | **$ 862,585** | **$ 921,212** |

## III-3 Conclusions, Recommendations, Opportunities and Challenges in the Management of Water Resources for Present and Future Beneficial Uses within the District

The key challenge to the Water Utility is to continue to provide a reliable, safe water supply to the community in the face of increasingly stringent regulatory restrictions, long-term water supply threats and tight economic times.

As described in previous sections of this report, current and long-term water supply threats include new restrictions on imported water, local storage and operations, exacerbated by vulnerabilities due to aging infrastructure and emerging threats. A case in point is loss of storage capacity and water supply yield due to operating restrictions at the district's local reservoirs.

### *Dam Safety Program and Reservoir Operating Restrictions*

The district has a comprehensive dam safety program that includes periodic inspections, surveillance and monitoring reports, maintenance, situation intelligence for dam emergencies, and special studies. As new technology and new geological information about local seismic activity has become available, the district, as a responsible dam owner, has started to undertake new seismic stability evaluations.

The operation and safety of the district's dams are regulated by the California Department of Water Resources (DWR), Division of Safety of Dams (DSOD). In addition, Anderson Dam is regulated by the Federal Energy Regulatory Commission (FERC) because of its affiliated hydroelectric power generating facility.

In 2003, as part of the ongoing program, staff began planning seismic stability evaluations on all district dams. Seismic stability analyses at Almaden, Calero, Guadalupe and Anderson reservoirs began in 2007. In 2008, district staff determined that further investigations, including more extensive field studies with complex drilling procedures that were not foreseen previously, were necessary; this required re-scoping the work that began in 2007. In June 2008, DSOD informed the district that updated seismic stability evaluations for Chesbro, Lenihan, Stevens Creek and Uvas dams were required.

The district has voluntarily placed operating restrictions on Almaden, Calero and Guadalupe Reservoirs since 2006 due to seismic stability questions on those three dams. The average loss due to these operating restrictions on water supply yield is:

| Reservoir | Average Water Supply Loss in Acre-Feet | Restriction |
|---|---|---|
| Almaden | 500 | 6 feet below the spillway |
| Calero | 150 | 6 feet below the spillway |
| Guadalupe | 330 | 9.8 feet below the spillway |

These operating restrictions will be in effect until either:

1. the aforementioned seismic stability evaluation confirms the safety of the dams, or
2. a seismic retrofit project has been completed.

Seismic stability evaluations are scheduled for completion by December 2010 for Anderson Dam and for Almaden, Calero and Guadalupe Dams. After this, the seismic stability evaluations for the next two dams (probably Stevens Creek and Lenihan Dam) will be completed by December 2011, with Uvas and Chesbro by December 2013.

In January 2009, DSOD ordered the district to restrict Anderson reservoir level to 20 feet below the spillway in order to provide a total freeboard of 40 feet (the distance between the operating reservoir level and the dam crest) such that an earthquake-induced dam crest slumping, if it occurred, would likely have minimal impact. Restricting the reservoir level by 20 feet reduces the allowable reservoir storage to about 74% of capacity – a loss of 23,650 acre-feet of storage.

The new operating restriction on Anderson Reservoir further limits the useable storage capacity in the Anderson/Coyote Reservoirs system. The existing DSOD restriction on Coyote Reservoir essentially limits the allowable storage in Coyote to about 53% of reservoir capacity, except under specific circumstances.

Under the current reservoir operating restriction, the district will need to further control the amount of winter runoff retained in Anderson Reservoir. Now, when winter storms are forecasted, the district may need to begin releasing additional water from Anderson Reservoir in order to maintain the reservoir storage at the required level. Higher winter releases from Anderson Reservoir will require reoperation of treatment plants and recharge programs as well as delivery of imported water supplies for the remainder of the year. The district will be more reliant upon uninterrupted Delta supplies and adequate deliveries from San Luis Reservoir during the summer months to bring in the imported water. In addition to a loss of water supply yield (estimated at 9,000 acre-feet), the loss of more than 25% of storage capacity in Anderson Reservoir will result in less carryover water in reserves for dry years, San Luis Reservoir low-point episodes, Delta outages and emergencies.

Anderson Dam and Reservoir

The district's dam maintenance activities depend upon completion of the Dam Maintenance Program EIR and Three Creeks HCP and Valley HP for environmental clearances, including endangered species. While these efforts are still important for broad, overall environmental clearances for dam maintenance, staff has initiated accelerated, interim environmental clearance processes for certain critical dam maintenance activities including: vegetation management, filling burrowing rodent holes, erosion control, and restoration of seepage monitoring facilities.

The issues surrounding the district's dam safety and maintenance program illustrate the complex interaction among competing objectives to provide for public health and safety, reliable water supply, and flood management while operating in a practical, cost-effective and environmentally-sensitive manner.

# IV

# Financial Outlook of the District's Water Utility System

## IV-1 Introduction

The purpose of this section is to describe the short- and long-term financial requirements for achieving the board's Ends Policies and to present a funding approach. This section summarizes the recommended charges for FY 2009-10 and the multi-year financial analysis that serves as the foundation for the recommended groundwater production charges in each zone. The multi-year analysis includes a series of increases in charges in each zone for the next ten years in combination with additional debt financing. Appendix B describes the Water Utility Enterprise revenue sources, cost centers, and reserves as well as board policy regarding finances.

The district's major sources of revenue are from the imposition of charges on groundwater production and from contracts for the sale of treated surface water produced by its three treatment plants. The district also receives revenue from property tax, interest earnings, grants, capital reimbursements and other sources. The district assesses the need for groundwater production charges annually and, in accordance with state law, prepares this report to describe the activities undertaken to provide a water supply, along with the associated capital, maintenance, and operating requirements.

The district's revenue requirements remained relatively stable for the period from 1993 to 1998 and charges were held constant. In 1998, the utility made the first of a series of capital investments required to comply with new water quality regulations. The district also invested more in recycled water, water banking, and infrastructure repair and maintenance to improve water supply reliability. Between FY 2003-04 and FY 2004-05, payments for water purchased from the federal government doubled. Consequently, the North County groundwater production charge increased from $240 per acre feet in FY 1997-98 to $405 per acre feet in FY 2004-05.

In the South County/Coyote Valley, the M&I groundwater production charge increased from $108 per acre feet in FY 1997-98 to $200 per acre feet in FY 2004-05. The increases were necessary due to the higher payments for purchased water from the federal government, expansion of services in the areas of recycled water, water conservation, asset management, security, groundwater quality management, and maintenance work on facilities and pipelines.

In FY 2005-06 and FY 2006-07, staff made a concerted effort to reduce costs and associated charges in accordance with the CEO's vision of "Getting Cleaner, Greener, and Leaner Together." The board approved several actions toward that vision including reducing permanent positions, reducing discretionary reserves and postponing capital and operations projects. Consequently, the board adopted groundwater production charges in FY 2005-06 and FY 2006-07 that were much lower than projected in April of 2004.

In FY 2007-08, staff revised the construction cost inflation assumption used in the financial modeling in response to unprecedented construction cost escalation. Staff assumed a 7% per year inflation plus a 10% market condition adjustment in the year of bid. This assumption change significantly impacted the groundwater production charge projection for FY 2007-08 and beyond.

Last year, in FY 2008-09, staff continued to assume 7% construction cost escalation but with an 8% market condition adjustment reflecting improved competition to bid SCVWD capital projects. The board directed several cost reductions including the elimination of 28 vacant positions District-wide, a 50% reduction in overtime, and reductions in temporary help, consultants, and travel costs. These cost reductions totaled roughly $4.4 million in savings to the Water Utility. While the board could have adjusted the staff recommended groundwater production charges accordingly, the board chose to adopt the staff recommendation due to several potential costs not factored into the cost projection. Those potential costs have materialized in FY 2008-09 including $1.4 million budget adjustment to withdraw water supplies from the Semitropic Groundwater Banking Program, a $2 million budget adjustment to pay for Bay Delta solution planning costs, and a $2 million budget adjustment coupled with a pending $3 million budget adjustment associated with dam seismic stability studies. The board adopted a $520 per acre feet groundwater production charge for non-agricultural water and $620 per acre feet for contract treated water. This is an increase of 9.5% and 7.8% respectively compared to FY 2007-08. In the South County, the board adopted a $275 per acre feet groundwater production charge for non-agricultural water, a 7.8% increase over the prior year, and $16.50 per acre feet groundwater production charge for agricultural water.

This year's groundwater production charge projection is illustrated in Figure IV-1.1. It reflects a range of potential groundwater production charges over the next ten years depending on the level of service to be provided. Staff analyzed several different levels of service in terms of operations and capital projects. The high end of the range represents the groundwater production charges required to fund all of the operations and capital projects identified by staff to meet the board's Ends Policies over the next few years. While staff has identified as many projects as possible, there are several initiatives in progress and/or potential future uncertainties that could result in the identification of additional capital or operations projects. These include, but are not limited to:

- Investments associated with North San Jose Development
- Potential Integrated Water Resources Plan (IWRP) investments that may be required due to future changes in water supply or demand conditions
- Impacts of the Santa Clara Valley Habitat Plan (Valley HP)/Three Creeks Habitat Conservation Plan (Three Creeks HCP)
- San Felipe Division facility refurbishments

The lower end of the range represents staff's recommended groundwater production charges for FY 2009-10 and the corresponding future trajectory based on the assumption that operating services will continue at the level budgeted in FY 2009-10. The CEO has called for a $13.5 million operations cost reduction target district-wide versus the forecast for FY 2009-10 and challenged employees to find a way to deliver the current level of service more efficiently. The staff recommendation assumes achievement of this target plus an additional operations cost reduction of $5 million for the Water Utility. As part of the budget process, staff is evaluating the impacts to level of service that would result from achieving these cost reductions.

The staff recommendation is less than the prior year groundwater production charge projection. Additional unmet operational needs were identified by Water Utility Enterprise staff but will continue to be delayed indefinitely unless efficiencies can be found. If unmet operational needs remain unfunded, then the ability of staff to achieve the board's Ends Policies in the long term could be sacrificed. The potential impacts include increased risk of (1) service interruptions, (2) higher corrective maintenance costs to repair facilities that have not been well maintained and (3) reduced ability to respond to drought.

**FIGURE IV-1.1 Ten-Year Projection**

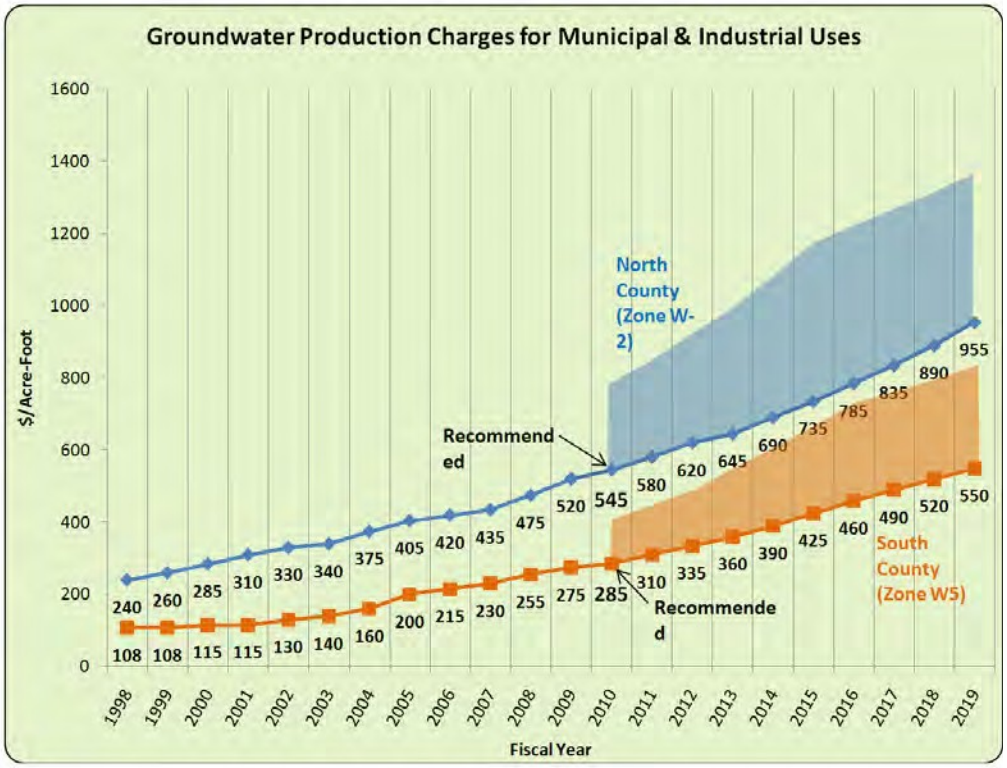


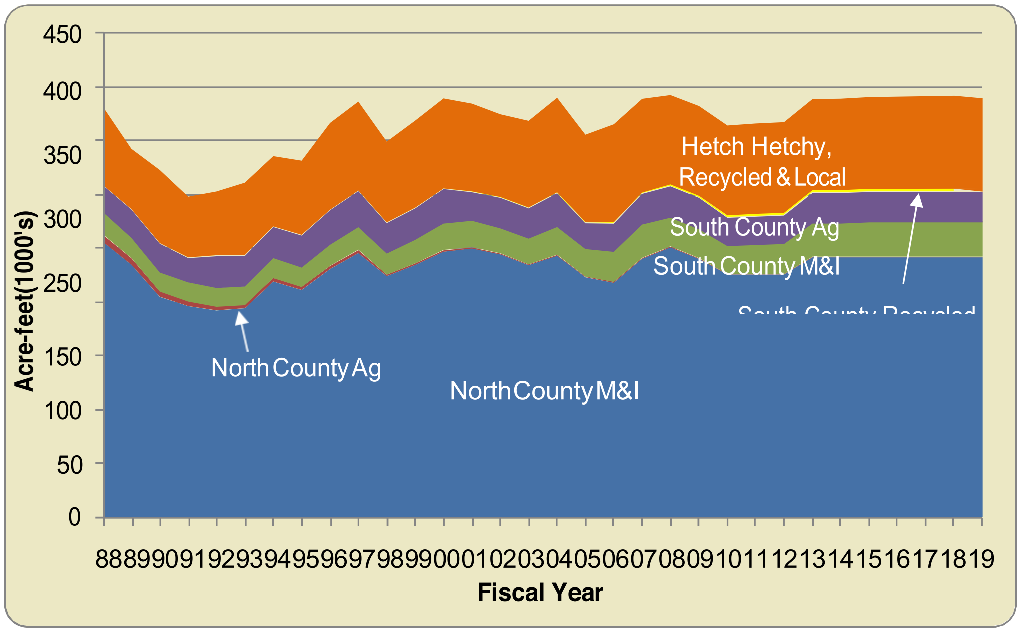
Table IV-1.1 shows groundwater production and other charges in fiscal years 2006-07 and 2007-08. The final column contains the recommended groundwater production charges for FY 2008-09, which are in accordance with the pricing policy described in Appendix B.

**TABLE IV-1.1 Summary of Charges (Dollars per Acre Foot, $/AF)**

| | Dollars Per Acre Foot | | |
|---|---|---|---|
| | **2007–08** | **2008-09** | **Recommended 2009-10** |
| **Zone W-2 (North County)** | | | |
| | | | |
| **Groundwater Production Charge** | | | |
| Municipal & Industrial | 475.00 | 520.00 | **545.00** |
| Agricultural | 15.50 | 16.50 | **17.50** |
| | | | |
| **Zone W-5 (South County/Coyote Valley)** | | | |
| | | | |
| **Groundwater Production Charge** | | | |
| Municipal & Industrial | 255.00 | 275.00 | **285.00** |
| Agricultural | 15.50 | 16.50 | **17.50** |
| | | | |
| **Recycled Water Charges** | | | |
| Municipal & Industrial | 244.00 | 275.00 | **275.00** |
| Agricultural | 40.50 | 41.50 | **41.50** |
| | | | |
| **Zone W-2 (North County)** | | | |
| | | | |
| **Basic User Charge** | 475.00 | 520.00 | **545.00** |
| | | | |
| **Treated Water Surcharge** | | | |
| Contract | 100.00 | 100.00 | **115.00** |
| Non-contract | 100.00 | 100.00 | **150.00** |
| | | | |
| **Total Treated Water Contract Charge** | 575.00 | 620.00 | **660.00** |
| **Total Treated Water Non-contract Charge** | 575.00 | 620.00 | **695.00** |

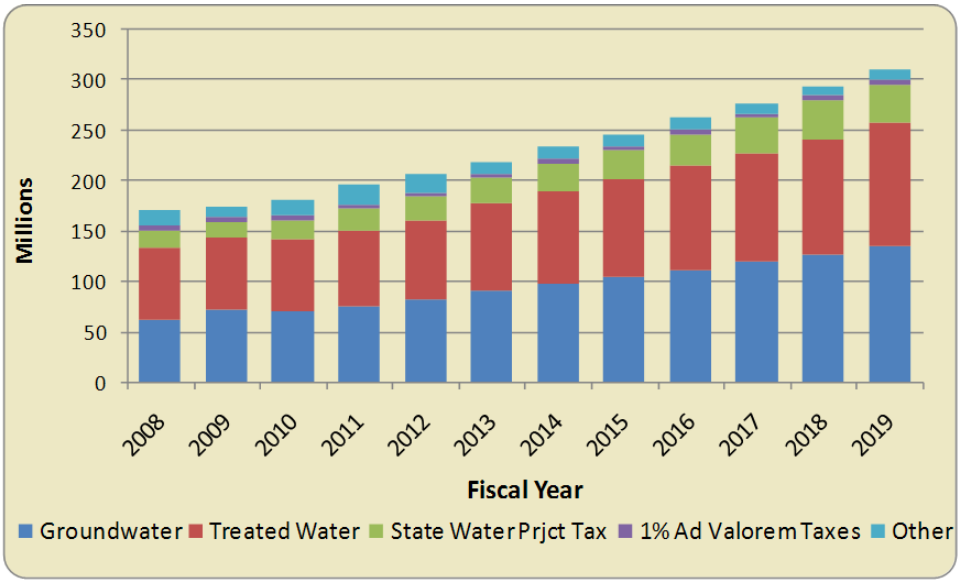
Figure IV-1.2 illustrates historical and projected water use. The projected water use is based on the 2005 Urban Water Management Plan, which assumes average weather conditions, adjusted downward for the anticipated impact of the governor's recent declaration of a drought state of emergency. Staff considered several multi-year water use reduction scenarios at the onset of this year's groundwater production charge setting process but settled on a scenario that considers the governor's request for urban users to conserve 20%. The total district water use projection has been reduced by 20,000 acre-feet to 280,000 acre-feet per year for the next three years, while total county water use is projected to be approximately 365,000 acre-feet per year. It is assumed that district water use will return to the average per the Urban Water Management Plan beginning in FY 2012-13.

**FIGURE IV-1.2 Historical and Projected Water Use**



Water Utility revenues are projected to increase from $174 million in FY 2008-09 to $311 million in FY 2018-19 as shown in Figure IV-1.3 based on the low end of the groundwater production charge projection. Groundwater production charges and treated water charges comprise the majority of Water Utility Enterprise operating revenue which is projected to increase at 6.0% per year on average. The State Water Project (SWP) tax is projected to grow at roughly 9% per year in line with SWP imported water contract obligations. In FY 2009-10, 1% ad valorem property taxes in South County are projected to increase at 6% due to the faster rate of development and growth in that part of the county, while in other areas the projection is for growth of 3.6%. In both FY 2011-12 and FY 2012-13, a 5% annual reduction in property taxes is anticipated due to the falling property values currently occurring in the housing market. After those two years, staff expects that the property tax growth will return to 6% per year in South County and 3.6% per year in other areas. Other revenue includes surface water, recycled water, interest earnings, grants, capital reimbursements and other miscellaneous revenues.

**FIGURE IV-1.3 Water Utility Revenue Forecast**



## IV-2 Review of District's Finances for Fiscal Years 2007-08, 2008-09, and 2009-10

The district uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. Accounts related to activities of the Water Utility have been segregated into one fund. Revenue accounts include groundwater production, treated water, property taxes, interest earnings, reimbursements, grants and other. Cost accounts include both direct and indirect costs associated with Water Utility Enterprise projects and activities. Within the Water Utility Fund, district staff track revenues and costs associated with the South County Zone separately so that the groundwater production charge for services that benefit the South County Zone can be calculated.

The district's financial plans are designed to carry out the direction of the board's Ends Policies on water supply and quality.

Table IV-2.1 shows the revenue requirements that are the basis for the recommended charges, breaking out operations, water purchases, extraordinary items, and capital for fiscal years 2007-08 through 2009-10. The net requirements are the revenues that must be available from groundwater production charges, water sales, property taxes, and other sources after using debt financing and allowing for funds added to, or used from reserves. Reserves provide a balancing mechanism to smooth fluctuations in the level of revenue that must be raised from groundwater production charges in a single year. Appendix D gives a description of each of the Water Utility Reserve Funds.

**TABLE IV-2.1 Overview of Water Utility Revenue Requirements ($ in Millions)**

| | Millions $ | | |
|---|---|---|---|
| **Revenue Requirements** | **Actual 2007–08** | **Adjusted Budget 2008–09** | **Estimated Budget 2009–10** |
| Operations | 90.5 | 101.0 | 92.5 |
| Debt Service | 11.8 | 13.4 | 16.4 |
| Water Purchases | | | |
| Federal Water | 22.0 | 23.6 | 23.2 |
| State Water | 15.2 | 18.1 | 21.0 |
| Extraordinary Items (Includes Advances, Repayments and Transfers) | 1.4 | 1.5 | 3.0 |
| Capital Projects | 69.2 | 144.2 | 58.3 |
| **TOTAL REQUIREMENTS** | **210.1** | **301.8** | **214.4** |
| | | | |
| Increase/(Decrease) in Reserves | 96.3 | (71.2) | (1.4) |
| Carryforward Reserves | (11.5) | (23.3) | (16.6) |
| Debt Proceeds | (124.0) | (33.0) | (15.1) |
| **Net Requirements From Water Utility Revenues** | **170.9** | **174.2** | **181.3** |

## *Fiscal Year 2007–08*

Actual revenue for FY 2007-08 was $170.9 million, approximately $2.4 million higher than budgeted. The increase is due to $3.8 million higher interest earnings and $5.2 million higher treated water revenue. This increase was offset by $1.6 million of lower than anticipated groundwater production charge revenue and a $4.5 million delay in a fixed asset sale.

Actual operations outlays were $1.5 million lower than the adjusted budget driven by $4.3 million unspent budget in the imported water program due to timing issues.

Unspent capital budget was carried forward to FY 2008-09 consistent with accounting practices. Several capital projects were closed resulting in $6.4 million worth of budget balance remaining moving to the reserve designated for operating and capital.

## *Fiscal Year 2008–09*

Estimated revenue for FY 2008-09 is trending slightly below budget as year-to-date water usage is slightly below average levels.

Operations costs are trending slightly below the adjusted budget. The adjusted budget includes budget adjustments of $2 million for Delta habitat conservation planning, $2 million for dam seismic stability studies, and conveyance program and $1.4 million for withdrawal of water from the Semitropic Groundwater Banking Program to bolster surface water supplies. The adjusted budget also includes pending budget adjustments of $3 million for dam seismic stability studies, $1.5 million for 6,000 acre feet of water from the Drought Water Bank, and an anticipated credit for $2 million from Semitropic Water Banking Program. Capital spending is anticipated to be at budget.

The reserve balance is expected to decrease by $71.2 million due to use of reserved long-term debt proceeds for capital expenditures.

### *Fiscal Year 2009–10*

Estimated revenue for FY 2009-10 is $181.3 million, which is nearly 4% higher than the FY 2008-09 budget. This increase is due primarily to the expectation that more capital reimbursements will be received in FY 2009-10. Operations costs are expected to be less than the FY 2008-09 budget due to district-wide effort to reduce costs. The cost of purchased water from the federal and state projects continues to be the largest expense item at $23.2 million and $21 million, respectively. The capital component of federal water purchase costs will be capitalized.

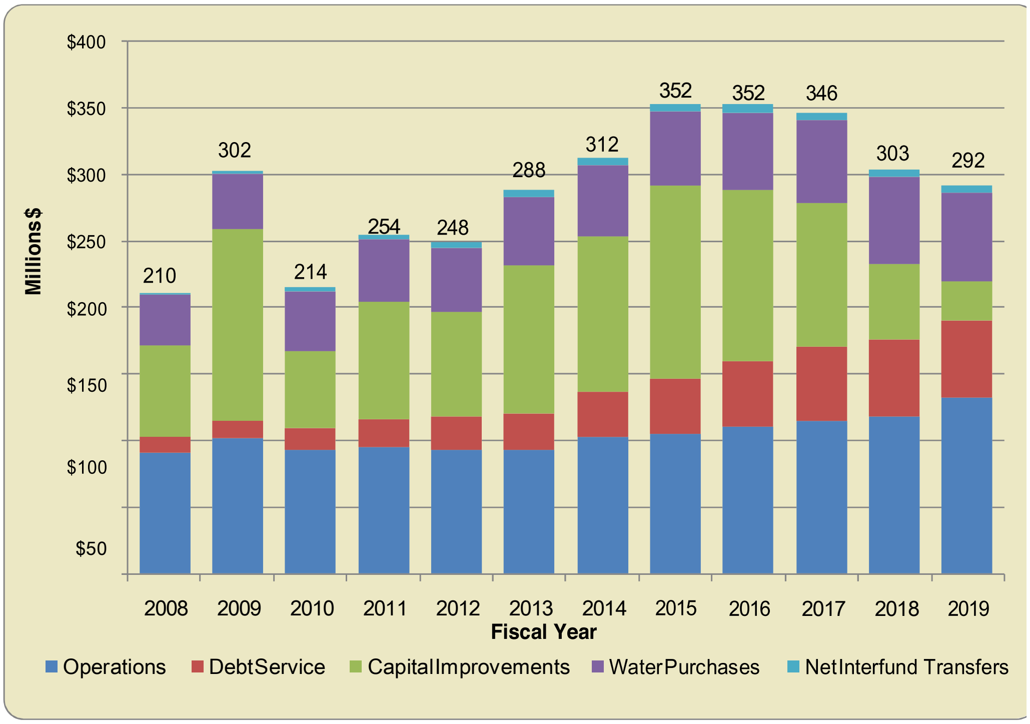
In FY 2009-10 the capital appropriation is estimated to be $58.3 million. A substantial portion of this estimate will fund the capital portion of federal water purchase costs, dam maintenance mitigation, Kirk Diversion Dam and fish screen improvement, Main and Madrone Avenue pipelines, a water protection project and multiple water treatment upgrades.

For FY 2009-10, Table IV-2.1 shows total requirements of $214.4 million to be met from a combination of current revenues, reserves, and debt. The recommended charges previously shown in Table IV-1.1 will generate $143.9 million in revenues from water usage. Property tax revenues are projected to be $23.9 million, and interest earnings and other revenue are estimated to be $13.5 million for a total of $181.3 million. The table shows a net decrease in reserves of $1.4 million.

## IV-3 Overview of Operating and Long-term Capital Plans

To develop a charge structure that will support planned work, staff analyzes the immediate needs of the district as well as anticipated requirements in the years to come. The projected outlays for the next ten years are shown in Figure IV-3.1 and include capital, operating and water purchase costs.

**FIGURE IV-3.1 Water Utility Ten-year Program - Projected Uses of Funds**



Operations costs are projected to increase at an average of 2.7% per year over the next ten years, driven mainly by inflation. Annual debt service is projected to increase by $45 million between FY 2008-09 and FY 2018-19, due to debt financing of the capital improvement program. The capital projection is based on a preliminary version of the FY 2009-10 5-Year Capital Improvement Program (CIP) and includes funding $921.2 million worth of capital projects between FY 2009-10 and FY 2018-19.

### *Capital Improvement Plans*

The district constructs and maintains reservoirs, pipelines, recharge ponds, and water treatment plants that are needed to achieve the board's Ends Policies. On an annual basis, the district conducts a process to plan for capital improvements and identify the resource needs and financial constraints to implement the projects.
The result of this process is board approval of a 5-Year Capital Improvement Plan (CIP).

Table IV-3.1 shows the projected capital expenditures for the next ten fiscal years by project based on an updated 5-Year CIP and a projection of the projects that would be funded in the subsequent five years. The cumulative investment between FY 2009-10 and FY 2018-19 is projected to be approximately $921.2 million (inflated). A large portion of the capital program is dedicated to asset management of Water Utility Enterprise facilities throughout the county and is based on a program that was started in January 2002 to provide a better basis for identifying long-term capital rehabilitation and replacement needs. The goal of the Asset Management program is to lower the cost of asset ownership and improve system reliability by establishing a life-cycle preventative and corrective maintenance schedule for each of the district's assets as well as renewal and replacement schedules.

**TABLE IV-3.1 Capital Improvement Projects —Fiscal Years 2009-10 Through 2018-19**

| | Thousands $, Inflated | | | | | | |
|---|---|---|---|---|---|---|---|
| **Capital Project** | **FY10 Projection** | **FY11 Projection** | **FY12 Projection** | **FY13 Projection** | **FY14 Projection** | **FY 15-19 Projection** | **Total FY 10-19** |
| **SOURCE OF SUPPLY** | | | | | | | |
| Dam Instrumentation* | | | | 6,246 | 344 | | 6,590 |
| Dam Maintenance Mitigation* | 3,178 | 220 | 154 | 81 | | | 3,633 |
| Recycled Water Masterplan - Short-Term Implementation* | | 5,711 | 23 | | | | 5,734 |
| San Tomas Well Field | 442 | | | | | | 442 |
| Recycled Water Advanced Treatment Facility WPCP | | 17,086 | 113 | | | | 17,199 |
| Pacheco Pumping Plant Regulating Tank Recoating* | 1,124 | | | | | | 1,124 |
| San Felipe Communications Cable Replacement* | 895 | 521 | 45 | | | | 1,461 |
| Almaden Dam Outlet Works Improvements | | 800 | 834 | 869 | 1,201 | 13,186 | 16,890 |
| Jacques Gulch Restoration | | | 29 | 50 | | | 79 |
| Calero/Fellows Dike Improvement* | 467 | 6,554 | 600 | | | | 7,621 |
| Pacheco Pumping Plant ASD Replacement* | | 7,306 | 611 | 295 | | | 8,212 |
| Coyote Dam Control Building Improvements* | | 169 | 387 | | | | 556 |
| SCADA Wireless System Overhaul for Dams and Reservoirs* | | 855 | 911 | 965 | | | 2,731 |
| Central Valley Project Capital Payments* | 6,659 | 6,894 | 7,137 | 7,389 | 7,650 | 43,922 | 79,649 |
| Water Banking Capital * | 1,820 | 1,820 | 1,820 | | | | 5,460 |
| IRP2 Well Fields | | 3,373 | 6,326 | 5,859 | 6,105 | 125,094 | 146,757 |
| Dam Rehabilitation Placeholder* | | | | 30,000 | 30,000 | 90,000 | 150,000 |
| **Source of Supply Subtotal** | **14,585** | **51,309** | **18,990** | **51,754** | **45,300** | **272,202** | **454,138** |
| **RAW WATER TRANSMISSION & DISTRIBUTION** | | | | | | | |
| South County Pipeline Right of Way Acquisition* | 286 | 1,669 | | | | | 1,955 |
| Vasona Pumping Plant Electrical Upgrades | | | | 123 | 542 | 6,091 | 6,756 |
| FAHCE Stevens Creek Fish Passage Enhancement - 90% | 630 | 2,249 | 5,135 | 3,779 | | | 11,794 |
| IRP2 Backup Raw Water Control Center at Almaden* | | 36 | 124 | 846 | 693 | | 1,699 |
| Alamitos Diversion Dam Improvements | | | 460 | | | | 460 |
| Coyote Diversion Dam Improvements | | 622 | 1,280 | | | | 1,902 |
| Kirk Diversion Dam & Fish Screen Improvements | 3,129 | 350 | | | | | 3,479 |
| Main & Madrone Avenue Pipelines Restoration* | 3,477 | 2,866 | | | | | 6,343 |
| Page Desilting System Improvements | 532 | | | | | | 532 |
| Penitencia Fish Facilities Modifications | 289 | 239 | 188 | 934 | | | 1,650 |
| Almaden-Calero Canal Rehabilitation | | | 235 | 6,422 | 1,106 | 256 | 8,019 |
| Ogier Ponds Separation from Coyote Creek* | | 447 | 466 | 2,832 | 6,460 | 2,141 | 12,346 |
| Stevens Creek & Vasona Raw Water Distribution | | 519 | 7,251 | 12,271 | 4,969 | | 25,010 |
| Pipeline Hydraulic Reliability Upgrades - Planning* | | 282 | | | | | 282 |
| Treated Water Pipeline Turnout Improvement - Planning | | | 294 | | | | 294 |
| **Raw Water Transmission & Distribution Subtotal** | **8,343** | **9,279** | **15,433** | **27,207** | **13,770** | **8,488** | **82,521** |
| **TREATED WATER TRANSMISSION & DISTRIBUTION** | | | | | | | |
| Water Protection* | 3,094 | 1,031 | | | | | 4,125 |
| Microwave Telecommunications System* | 52 | 22 | | | | | 74 |
| Santa Clara Distributary Turnout | 57 | | | | | | 57 |
| IRP2 Additional Line Valves | | | | | | 10,442 | 10,442 |
| **Treated Water Transmission & Distribution Subtotal** | **3,203** | **1,053** | **0** | **0** | **0** | **10,442** | **14,698** |

**TABLE IV-3.1 continued…Capital Improvement Projects —Fiscal Years 2009-10 Through 2018-19**

| | Thousands $, Inflated | | | | | | |
|---|---|---|---|---|---|---|---|
| Capital Project | FY10 Projection | FY11 Projection | FY12 Projection | FY13 Projection | FY14 Projection | FY 15-19 Projection | Total FY 10-19 |
| **WATER TREATMENT** | | | | | | | |
| WTP I/O Cards & Trunk Cable Upgrades | 955 | 489 | 294 | | | | 1,738 |
| PWTP Maintenance Building | 294 | 43 | | | | | 337 |
| PWTP Chemical Systems Upgrade | | 1,585 | 218 | 18 | | | 1,821 |
| PWTP Backwash Pump Replacement | 363 | | | | | | 363 |
| PWTP Water Pumps Modifications | 457 | 2,446 | 559 | 71 | | | 3,533 |
| Telephones at Vasona | 1 | | | | | | 1 |
| STWTP Incompatible Materials | 2,142 | 409 | | | | | 2,551 |
| RWTP Chemical System Upgrade | 3 | 195 | | | | | 198 |
| Telephones at Rinconada WTP | 28 | | | | | | 28 |
| RWTP Valve Replacements | 132 | 630 | | | | | 762 |
| RWTP FRP Residulas Management | 1,760 | 793 | 12,966 | 7,831 | 590 | | 23,940 |
| RWTP FRP Computer Room Retrofit | 1,042 | 342 | | | | | 1,384 |
| RWTP FRP Primary Electrical System Improvement | 303 | 8,022 | 679 | 0 | | | 9,004 |
| RWTP FRP Site Improvement | 219 | 876 | | | | | 1,095 |
| RWTP FRP Chemical Storage Structure & Pump Valves Upgrades | 365 | 651 | 4,292 | 354 | | | 5,662 |
| RWTP Reliability Improvement | 2,163 | 1,691 | 5,402 | 4,651 | 48,883 | 78,379 | 141,169 |
| IRP2 Seismic Study and Retrofit of WTP Ops Bldg | | 1,848 | 6,034 | 6,412 | 184 | | 14,478 |
| RWTP BL-1 Valve & Vault Replacement | | | | | | 1,600 | 1,600 |
| PWTP Washwater Clarification Facility | | | | 508 | 611 | 7,354 | 8,473 |
| RWTP FRP Filtration System Improvement | | 1,150 | 6,838 | 1,346 | 638 | | 9,972 |
| PWTP Ammonia System Relocation and Upgrades | | | 668 | 3,550 | 296 | | 4,514 |
| PWTP Filter Basin Covers | | | 391 | 706 | | | 1,097 |
| PWTP Large Valve Automation | | | 845 | 153 | | | 998 |
| RWTP Filter Polymer System Improvement | | | | | 230 | 1,264 | 1,494 |
| RWTP Advanced Treatment | | | | | | 45,406 | 45,406 |
| **Water Treatment Subtotal** | **10,227** | **21,170** | **39,186** | **25,600** | **51,432** | **134,003** | **281,618** |
| **ADMINISTRATION & GENERAL** | | | | | | | |
| Radio Repeater System Infill - 47% | | 198 | | | | | 198 |
| CPS Labor Collaborative & Rela* | 136 | 160 | 174 | 197 | 213 | 1,021 | 1,902 |
| Workforce and Knowledge Development - CPS* | 808 | 950 | 1,032 | 1,171 | 1,263 | 6,054 | 11,278 |
| Quality Management-CPSD* | 304 | 292 | 238 | 338 | 278 | 2,422 | 3,873 |
| CEQA Administration-CPSD* | 19 | 18 | 15 | 21 | 17 | 151 | 242 |
| CIP Development & Admin - CPSD* | 422 | 496 | 538 | 611 | 659 | 3,159 | 5,885 |
| Construction-Mgt&Admin* | 144 | 138 | 113 | 160 | 131 | 1,146 | 1,832 |
| CADD-Mgt & Admin* | 77 | 74 | 61 | 86 | 70 | 615 | 983 |
| Survey - Mgt & Admin* | 377 | 362 | 295 | 418 | 344 | 2,999 | 4,794 |
| Real Estate - GSD Mgt & Admin* | 189 | 182 | 148 | 210 | 173 | 1,509 | 2,412 |
| CPSD Management & Support* | 1,990 | 1,913 | 1,559 | 2,209 | 1,815 | 15,847 | 25,334 |
| Construction Inspection& Admin* | 204 | 196 | 160 | 227 | 186 | 1,625 | 2,598 |
| CPS Process Improvement* | 715 | 840 | 913 | 1,035 | 1,117 | 5,354 | 9,973 |
| Corporation Yard Relocation - 38%* | 35 | 49 | | | | | 84 |
| ISMP Computerized Maintenance Management - 50%* | 216 | | | | | | 216 |
| ISMP Water Resource Information System* | 74 | | | | | | 74 |
| PeopleSoft System Upgrade - 55%* | 1 | | | | | | 1 |
| **Administration & General Subtotal** | **5,711** | **5,871** | **5,246** | **6,684** | **6,266** | **41,901** | **71,679** |
| Projected Carry Forward* | 16,558 | | | | | | 16,558 |
| **TOTAL** | **58,627** | **88,681** | **78,855** | **111,245** | **116,768** | **467,036** | **921,212** |
| | | | | | | | |
| **TOTAL (less Transfers)** | **58,302** | **88,632** | **78,855** | **111,245** | **116,768** | **467,036** | **920,837** |

Note: The asterisked projects would benefit the South County/Coyote Valley and therefore would be funded in part or in whole by the South County/Coyote Valley.

Table IV-3.2 shows the lower priority or deferred capital projects that are not funded under the recommended charges for FY 2009–10. The postponed capital projects total approximately $566.8 million (inflated) over the next ten years. The upper bound of Figure IV-1.1 illustrates the required charge projection necessary to fund the postponed capital projects.

**TABLE IV-3.2 List of Capital Projects Postponed Indefinitely**

| | Thousands $, Inflated | | | | | | |
|---|---|---|---|---|---|---|---|
| **Name** | **FY10 Projection** | **FY11 Projection** | **FY12 Projection** | **FY13 Projection** | **FY14 Projection** | **FY 15-19 Projection** | **Total FY 10-19** |
| **SOURCE OF SUPPLY** | | | | | | | |
| Anderson Reservoir Bank Erosion Repair* | 199 | 399 | 3,197 | 2,839 | | | 6,634 |
| Guadalupe Dam Outlet Works Rehab | 466 | 486 | 770 | 6,132 | | | 7,854 |
| Calero Dam Outlet Works Rehab | 348 | 363 | 424 | 4,497 | | | 5,632 |
| San Luis Reservoir Low Point Improvement - Design and Construction* | 16,633 | 44,383 | 47,232 | 33,101 | | | 141,349 |
| Recycled Water Masterplan - Long-Term Implementation* | 8,090 | 112 | | | | | 8,202 |
| Recycled Water - Advanced Treatment Plant - Coyote Valley | 1,723 | 224 | 2,338 | 10,661 | 6,826 | 4,241 | 26,013 |
| Dam Rehabilitation Placeholder (Unfunded portion)* | | | | 30,000 | 30,000 | 90,000 | 150,000 |
| DHCCP Implementation and Other Delta Projects* | 1,000 | 1,030 | 10,061 | 10,363 | 10,674 | 58,368 | 91,496 |
| **Source of Supply Subtotal** | **28,459** | **46,997** | **64,022** | **97,593** | **47,500** | **152,609** | **437,180** |
| **RAW WATER TRANSMISSION & DISTRIBUTION** | | | | | | | |
| Valve 906 Low-Flow Bypass | 125 | 31 | | | | | 156 |
| San Felipe Pipeline Upgrades* | 483 | 435 | 10,042 | | | | 10,960 |
| Santa Clara Tunnel Leakage and Pacheco Conduit Dewater* | 471 | 232 | 2,689 | | | | 3,392 |
| Church Avenue Diversion* | 1,372 | 429 | 2,330 | 65 | | | 4,196 |
| Coyote Pumping Plant ASD Replacement | 372 | 428 | 566 | 3,153 | 2,785 | 2,676 | 9,980 |
| South County Recharge Ponds* | 1,333 | 6,367 | 7,166 | 11,146 | 7,294 | | 33,306 |
| **Raw Water Transmission & Distribution Subtotal** | **4,156** | **7,922** | **22,793** | **14,364** | **10,079** | **2,676** | **61,990** |
| **WATER TREATMENT** | | | | | | | |
| RWTP Waste Stream Separation Modification | 108 | 648 | 56 | | | | 812 |
| WTP Filter Backwash Aid | 323 | 1,739 | 175 | | | | 2,237 |
| STWTP Chemical Tank MOVs & Instrumentation | 167 | 396 | 663 | | | | 1,226 |
| **Water Treatment Subtotal** | **598** | **2,783** | **894** | **0** | **0** | **0** | **4,275** |
| **TREATED WATER TRANSMISSION & DISTRIBUTION** | | | | | | | |
| Milpitas Pipeline Terminus Valve & Vault | 106 | 123 | 185 | 1,251 | 267 | | 1,932 |
| Treated Water Air Valves Replacement | 833 | 521 | 386 | 943 | 4,951 | 15,403 | 23,037 |
| **Treated Water Transmission & Distribution Subtotal** | **939** | **644** | **571** | **2,194** | **5,218** | **15,403** | **24,969** |
| **ADMINISTRATION & GENERAL** | | | | | | | |
| ISMP Electronic Document Management System* | 22 | 1,031 | 909 | | | | 1,961 |
| Corporation Yard Implementation* | 1,680 | 7,641 | 862 | 3,457 | 21,875 | 873 | 36,389 |
| **Administration & General Subtotal** | **1,702** | **8,672** | **1,771** | **3,457** | **21,875** | **873** | **38,350** |
| **TOTAL** | **35,854** | **67,018** | **90,051** | **117,608** | **84,672** | **171,561** | **566,764** |

Note: The asterisked projects would benefit the South County/Coyote Valley and therefore would be funded in part or in whole by the South County/Coyote Valley

## IV-4 Finances

### *Financing and Bond Ratings*

To fund the construction of new facilities, the district has historically relied on both pay as you go financing and long-term debt financing as authorized by the voters in 1984. In 2006, the district's Water Utility Enterprise refunded approximately $55 million of outstanding revenue bonds issued in 2000 and $40 million of outstanding commercial paper. In September of 2007, the Water Utility Enterprise issued $123 million of long term debt to fund capital appropriations over the next three years.

Capital improvement needs total $921.2 million (in inflated dollars) for the ten fiscal years 2009-10 through 2018-19. As shown in Figure IV- 4.1, the district will see debt service rise from $16 million in FY 2009-10 to just over $58 million in FY 2018-19 as a result of periodic debt issuances to fund capital. Total outstanding debt (excluding general obligation bonds) is shown in Figure IV-4.2 and is projected to increase from $267 million in FY 2009-10 to $745 million in FY 2018-19. This outstanding debt could be significantly higher if all postponed capital projects were funded.

**FIGURE IV-4.1 Projected Debt Service**

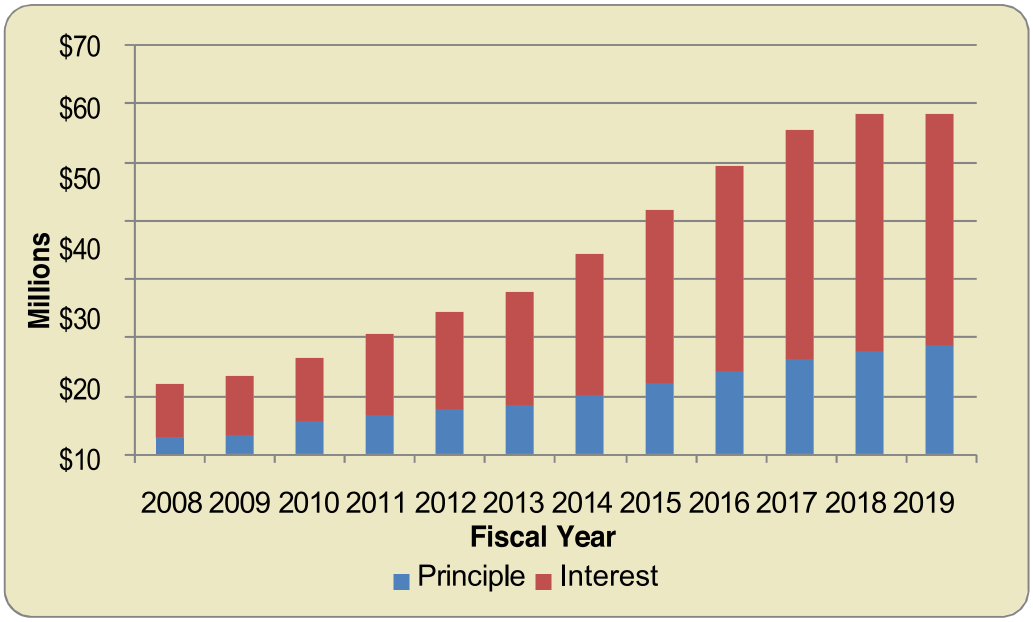
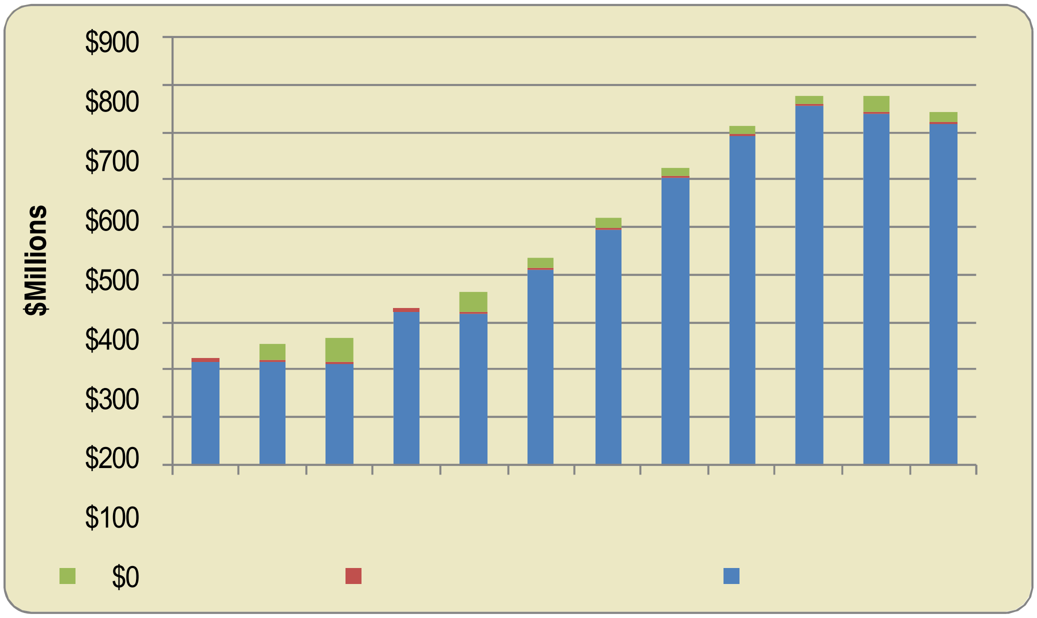


**FIGURE IV-4.2 Projected Outstanding Debt**



The district was upgraded to a rating of Aa2 from Moody's for the September 2007 long-term debt issuance while Standard & Poor's maintained a rating of AA. These ratings reflect the district's strong financial position and the highly rated creditworthiness of district issued securities. The ratings are among the highest for a water-related governmental entity in the state of California, which helps keep interest costs borne by the district at a minimum.

### *Water Utility Fund Projected Proforma*

Table IV-4.1 shows the projected revenues, expenditures, and reserves over the next ten years for the Water Utility Fund. By financing with a combination of debt, current year revenue, and reserves, the district is able to meet its capital investment plan. Some capital projects are funded via transfer from the Water Utility Fund, consequently the capital outlays shown in the proforma equals total annual capital project cost adjusted for transfers previously shown in Table IV-3.1. Under the recommended projection, the financial model assumes that discretionary reserves are maintained at minimum per district policy.

The financial model under the recommended projection reflects a senior Lien Debt Service Coverage Ratio ranging between 1.99 and 2.62 through FY 2018-19. Targeting a ratio of 2.0 or better helps to ensure financial stability and continued high credit ratings.

# TABLE IV-4.1
## Ten-Year Water Utility Plan ($ in Thousands)

| | Actual<br>2007–08 | Adjusted Budget<br>2008–09 | Projected<br>2009–2010 | Projected<br>2010–11 | Projected<br>2011–12 | Projected<br>2012-13 | Projected<br>2013-14 | Projected<br>2014-15 | Projected<br>2015-16 | Projected<br>2016-17 | Projected<br>2017-18 | Projected<br>2018-19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Operating Revenues** | | | | | | | | | | | | |
| Groundwater Production Charges | $60,998 | $71,653 | $70,476 | $75,496 | $81,140 | $90,843 | $97,341 | $104,426 | $111,735 | $118,875 | $126,629 | $135,609 |
| Surface & Recycled Water Charges | $2,600 | $1,482 | $2,379 | $2,631 | $2,815 | $2,984 | $3,197 | $3,466 | $3,709 | $3,990 | $4,244 | $4,695 |
| Treated Water Charges | $71,879 | $71,908 | $71,068 | $74,837 | $79,144 | $86,405 | $91,624 | $96,843 | $102,642 | $108,441 | $114,820 | $122,359 |
| Inter-governmental Services | $2,403 | $3,180 | $2,102 | $1,782 | $1,472 | $1,635 | $1,656 | $1,553 | $1,590 | $1,662 | $1,735 | $1,981 |
| **Total Operating Revenue** | **$137,880** | **$148,223** | **$146,025** | **$154,746** | **$164,571** | **$181,867** | **$193,818** | **$206,288** | **$219,676** | **$232,968** | **$247,428** | **$264,644** |
| **Non-Operating Revenues** | | | | | | | | | | | | |
| Property Taxes | $22,945 | $20,915 | $23,906 | $26,688 | $28,356 | $30,103 | $32,273 | $33,451 | $36,636 | $39,830 | $43,033 | $43,244 |
| Interest | $8,355 | $2,922 | $2,227 | $1,985 | $2,021 | $2,059 | $2,161 | $2,293 | $2,407 | $2,527 | $2,650 | $2,790 |
| Capital Contributions | $708 | $1,850 | $6,326 | $12,261 | $9,939 | $4,754 | $4,680 | $3,250 | $3,250 | $1,600 | $0 | $0 |
| Other | $1,027 | $327 | $2,829 | $1,331 | $1,334 | $336 | $339 | $342 | $344 | $348 | $351 | $354 |
| **Total Non-Operating Revenues** | $33,036 | $26,013 | $35,288 | $42,266 | $41,649 | $37,251 | $39,453 | $39,335 | $42,638 | $44,305 | $46,034 | $46,388 |
| **Total Revenue** | **$170,916** | **$174,237** | **$181,312** | **$197,011** | **$206,220** | **$219,118** | **$233,271** | **$245,623** | **$262,314** | **$277,272** | **$293,462** | **$311,032** |
| **Operating Outlays** | | | | | | | | | | | | |
| Operations | $125,428 | $138,108 | $132,218 | $135,796 | $138,403 | $141,339 | $149,190 | $153,083 | $162,989 | $170,629 | $177,353 | $192,104 |
| Operating Projects | $2,265 | $4,551 | $4,522 | $5,334 | $2,584 | $2,262 | $6,111 | $6,640 | $5,351 | $5,555 | $5,064 | $5,793 |
| Debt Service | $11,790 | $13,412 | $16,415 | $20,477 | $24,412 | $27,543 | $34,214 | $41,513 | $49,163 | $55,397 | $58,144 | $58,146 |
| **Total Operating Outlays** | $139,484 | $156,070 | $153,154 | $161,607 | $165,399 | $171,144 | $189,514 | $201,235 | $217,503 | $231,581 | $240,561 | $256,044 |
| Operating Transfers Out | (1,398) | (1,436) | (2,967) | (3,409) | (4,080) | (5,460) | (5,700) | (6,000) | (6,000) | (6,000) | (6,000) | (6,000) |
| Debt Proceeds | 123,261 | 33,000 | 15,113 | 58,510 | 42,614 | 70,772 | 83,516 | 110,453 | 92,906 | 72,706 | 13,571 | (14,173) |
| State Revolving Fund Loan Proceeds | 774 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Capital Outlay | (69,240) | (144,183) | (58,301) | (88,632) | (78,855) | (111,245) | (116,768) | (144,866) | (128,063) | (108,093) | (56,526) | (29,487) |
| **Total Other Financing Sources/ (Uses)** | 53,398 | (112,619) | (46,155) | (33,531) | (40,321) | (45,933) | (38,952) | (40,413) | (41,157) | (41,387) | (48,955) | (49,660) |
| **Balance Avaliable** | **84,831** | **(94,532)** | **(17,999)** | **1,874** | **500** | **2,042** | **4,805** | **3,975** | **3,654** | **4,304** | **3,946** | **5,328** |
| **Reserves:** | | | | | | | | | | | | |
| **Restricted Reserves:** | | | | | | | | | | | | |
| WUE-Restricted Operating Reserve | $11,987 | $12,344 | $12,763 | $13,467 | $13,783 | $14,262 | $15,793 | $16,770 | $18,125 | $19,298 | $20,047 | $21,337 |
| WUE - Rate Stablization Reserve | $1,295 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 | $1,341 |
| San Felipe Emergency Reserve | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 | $3,637 |
| Revenue Bond Debt Service Reserve | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 | $6,691 |
| State Revolving Fund | $401 | $401 | $401 | $401 | $401 | $401 | $401 | $401 | $401 | $401 | $401 | $401 |
| Total Restricted | $24,011 | $24,414 | $24,833 | $25,537 | $25,853 | $26,332 | $27,863 | $28,840 | $30,195 | $31,368 | $32,117 | $33,407 |
| **Designated Reserves:** | | | | | | | | | | | | |
| Floating Rate Debt Stabilization | $303 | $303 | $303 | $303 | $303 | $303 | $303 | $303 | $303 | $303 | $303 | $303 |
| Designated for Operating and Capital | $106,763 | $26,539 | $24,279 | $25,048 | $24,832 | $25,995 | $28,869 | $31,467 | $33,365 | $36,096 | $38,894 | $42,532 |
| Supplemental Water Supply Appropo. | $6,791 | $8,327 | $8,727 | $9,127 | $9,527 | $9,927 | $10,327 | $10,727 | $11,127 | $11,527 | $11,927 | $12,327 |
| Currently Authorized Projects | $39,903 | $16,558 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Capital | $153,760 | $51,726 | $33,308 | $34,478 | $34,662 | $36,225 | $39,498 | $42,497 | $44,795 | $47,925 | $51,123 | $55,161 |
| **Designated Liability & Other:** | | | | | | | | | | | | |
| Contingent Liabilities | $0 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 | $7,100 |
| **Total** | $177,771 | $83,240 | $65,241 | $67,115 | $67,615 | $69,657 | $74,461 | $78,436 | $82,090 | $86,394 | $90,340 | $95,668 |
| **Debt Service Coverage** | | | | | | | | | | | | |
| Senior Lien Debt Service Coverage | 3.91 | 2.32 | 2.11 | 2.06 | 2.24 | 2.62 | 2.26 | 2.16 | 2.03 | 1.99 | 2.12 | 2.16 |

### *North County (Zone W 2) Finances*

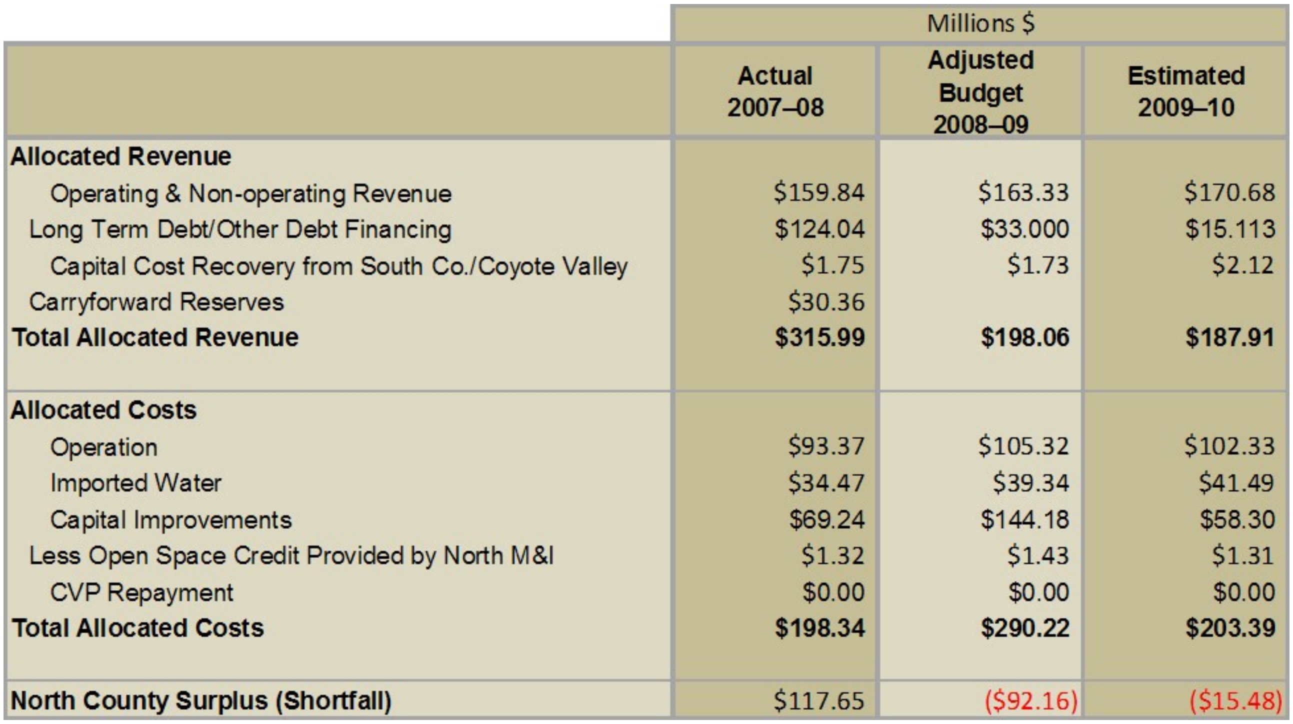
North County (Zone W 2) is generally defined as the portion of the county north of Metcalf Road. North County (Zone W 2) accounts for approximately 80% of district water consumption, but because of higher charges due to higher North County costs, over 95% of the Water Utility Enterprise's revenue. As shown at the beginning of the financial section in Table IV-1.1, staff recommends a $545 per acre feet groundwater production charge for non-agricultural (M&I) water and a $660 per acre feet charge for contract treated water for FY 2009-10. This is an increase of 4.8% for groundwater production and 6.5% for treated water compared to FY 2008-09. The recommended charge increase translates to an increase of $0.86 per month for the typical residence using 1500 cubic feet of groundwater per month and $1.38 per month for the typical residence using 1500 cubic feet of contract treated water per month. Customers in most instances may experience charge increases enacted by their retail water provider in addition to those from the district.

Staff proposes increasing the North County agricultural groundwater production charge by 6.1% from $16.50 per acre feet to $17.50 per acre feet in FY 2009-10 in concert with the South County agricultural groundwater production charge. The resulting agricultural groundwater production charge is 3.2% of the M&I groundwater production charge in North County.

Staff recommends increasing the surcharge on treated water delivered under the contracts with retail agencies to $115 per acre feet. As outlined in treated water contracts, the district has the discretion to make available treated water in excess of the retailers' basic contract amounts, so-called non-contract treated water, "… at such times and such prices as determined by the district." Given the scarcity of surface water supplies, staff anticipates limited to no availability of non-contract treated water next year. Staff recommends increasing the non-contract surcharge to $150 per acre feet for FY 2009-10. The increased surcharge for both contract and non-contract water is anticipated to encourage the retailers to pump groundwater and purchase less treated water.

The district issued $123 million of long term debt in FY 2007-08 in anticipation of a large capital appropriation for FY 2008-09. The timing of the debt issuance and projected capital expenditures drive the surplus in North County Finances for FY 2007-08 followed by the shortfall in FY 2008-09 as exhibited in Table IV-4.2. The table also shows that total North County costs in FY 2009-10 are estimated to decrease by approximately $87 million compared to the budgeted expenditures in FY 2008-09. This decrease is driven by reduced capital expenditures as projected in the 5-year CIP.

**TABLE IV-4.2 Overview of North County Finances ($ in Millions)**



| | Millions $ | | |
|---|---|---|---|
| | Actual 2007–08 | Adjusted Budget 2008–09 | Estimated 2009–10 |
| **Allocated Revenue** | | | |
| Operating & Non-operating Revenue | $159.84 | $163.33 | $170.68 |
| Long Term Debt/Other Debt Financing | $124.04 | $33.000 | $15.113 |
| Capital Cost Recovery from South Co./Coyote Valley | $1.75 | $1.73 | $2.12 |
| Carryforward Reserves | $30.36 | | |
| **Total Allocated Revenue** | **$315.99** | **$198.06** | **$187.91** |
| **Allocated Costs** | | | |
| Operation | $93.37 | $105.32 | $102.33 |
| Imported Water | $34.47 | $39.34 | $41.49 |
| Capital Improvements | $69.24 | $144.18 | $58.30 |
| Less Open Space Credit Provided by North M&I | $1.32 | $1.43 | $1.31 |
| CVP Repayment | $0.00 | $0.00 | $0.00 |
| **Total Allocated Costs** | **$198.34** | **$290.22** | **$203.39** |
| **North County Surplus (Shortfall)** | $117.65 | ($92.16) | ($15.48) |

Table IV-4.3 shows the relationship between expenditures and the sources of revenue in Zone W 2. The groundwater production charges for FY 2009-10 are necessary to conduct “district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this state” (District Act, Section 26.3).necessary to conduct “District activities in the protection and augmentation of the water supplies for users within a zone or zones of the District which are necessary for the public health, welfare, and safety of the people of this state” (District Act, Section 26.3).

**TABLE IV-4.3 Fiscal Year 2009-10 North County Water Utility Program Requirements and Financing Sources**

| Program | Cost Category | FY 10 Prelim ($K) | Description of Activities |
|---|---|---|---|
| Groundwater Management | Groundwater Management | 6,228 | Operate & maintain recharge ponds, canals, pipelines & diversions including vegetation management, groundwater level & quality monitoring, groundwater modeling, subsidence data collection & analysis, groundwater recharge reuse, groundwater recharge evaluation |
| Treated Water Ops & Maint | Treatment Plant Ops & Maintenance | 29,998 | Operate & maintain 3 water treatment plants |
| | Drinking Water Quality | 5,768 | Water District laboratory operations, water quality planning, testing, research, and reporting |
| | Treated Water Transmission & Distribution | 4,393 | Maintain & operate treated water transmission and distribution system |
| Water Supply | Water Supply Storage | 6,815 | Dams and reservoir operations & maintenance, water banking program |
| | Imported Water Purchases | 34,836 | Imported water purchases |
| | Raw Water Transmission & Distribution | 8,850 | Operate & maintain raw water distribution system, including mechanical, electrical and SCADA |
| Water Supply Planning | Short-Term Water Supply Planning and operations | 1,032 | Data collection & analysis, water supply conditions analysis, operations planning, shortage contingency planning & implementation, operating policies and procedures |
| | Water Supply System Sustainability | 1,122 | Water rights protection, disaster planning, asset protection |
| | Long-term Water Supply Planning | 9,417 | Integrated Water Resources Plan, Urban Water Management Plan, infrastructure master planning, integrated regional water management plan, water system computer modeling, imported water supply management, long-term Delta issues resolution |
| Recycling & Conservation | Water Recycling | 3,366 | Administer agreements, planning, technical studies, recycled water rebates |
| | Water desalination | - | regional desalination project, salinity management |
| | Water Conservation | 9,524 | Technical assistance, financial incentives, outreach and education, program development |
| Natural Resource Protection | Resource Protection | 3,204 | Environmental planning & compliance, well permitting and destruction, biodiversity monitoring |
| | Mitigations to Protect Natural Resources | 2,134 | Environmental compliance support, habitat conservation and mitigation commitments, urban runoff polution prevention |
| | Climate change mitigation and adaptation | 303 | Programs and activities to mitigate climate change impacts and plan for adaptation strategies |
| Support Services | Water Utility Business Services | 10,313 | General & division management; performance measures; non-project related unit management; communications; financial support & water charge setting; public outreach; health and safety training; billing, data maintenance, auditing; meter reading, testing, repair, installation, backflow prevention |
| | Strategic Support Services | 1,388 | Emergency services, warehouse and equipment services, real estate services, ethics & diversity |
| Capital & Other | Debt Service | 16,415 | Principal and Interest payments on outstanding debt |
| | Capital Improvements | 58,301 | Capital Improvement Program |
| | Open Space Credit | 1,261 | Help preserve the open space benefits provided by agricultural lands |
| | Operating Cost Reductions | (11,275) | Operating Cost reductions |
| | **Total Program Requirements** | **203,393** | |
| | | | |
| | **Financing Sources** | | |
| | Capital Cost recovery | 2,116 | |
| | Debt Proceeds | 15,113 | |
| | Interest & Other | 13,257 | |
| | Property Tax | 21,780 | |
| | Treated Water Sales | 71,068 | |
| | Surface Water Charges | 1,950 | |
| | Groundwater Production Charges | 62,629 | |
| | Total Financing Sources | 187,912 | |

## South County/Coyote Valley (Zone W 5) Finances

South County/Coyote Valley (Zone W 5) is generally defined as the portion of Santa Clara County south of Metcalf Road, including Coyote Valley, Morgan Hill, San Martin and Gilroy. Charges in Zone W 5 are based on the costs of specific facilities, imported water costs, and operations costs related to managing the groundwater basin, ensuring water quality, and measuring water supplies and usage. Under current policies for managing the finances of South County/Coyote Valley, charges are set to maintain an approximate balance between revenues and costs. The cumulative balance is tracked, and historically projected charges have been set to keep the cumulative balance near zero, while maintaining relative stability in South County/Coyote Valley charges. Successive years of surplus or shortfall can occur, but charges are adjusted only when the trend in the cumulative surplus or shortfall shows a significant imbalance.

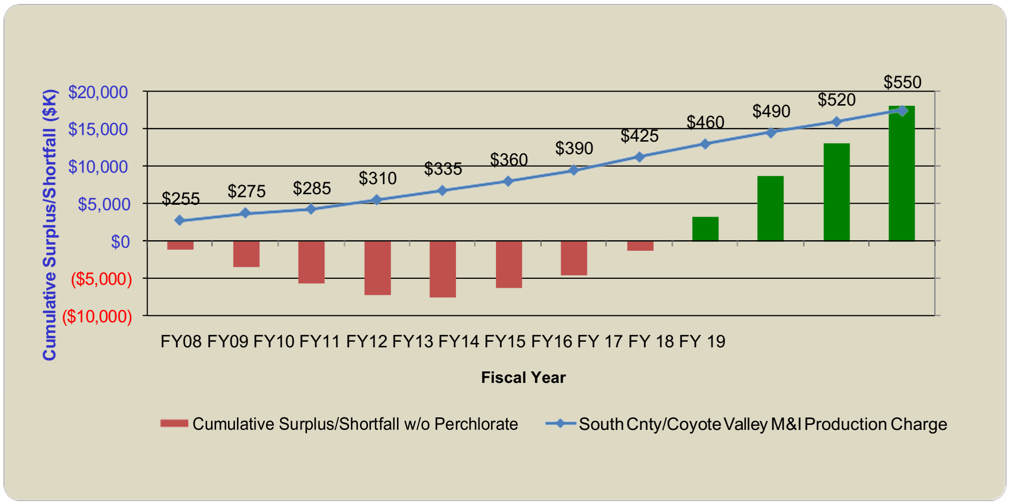
For South County/Coyote Valley, staff recommends a groundwater production charge of $285 per acre feet for M&I water, a 3.6% increase over prior year, and a $17.50 per acre feet groundwater production charge for agricultural water. The increase translates to an additional $0.34 per month for the typical residence using 1500 cubic feet of groundwater per month. Customers in most instances will experience water charge increases enacted by their retail water provider in addition to those from the district. With the recommended charges for FY 2009-10, costs are estimated to exceed revenues by approximately $2.3 million in that year (see Table IV-4.4).

**TABLE IV-4.4 Overview of South County/Coyote Valley Finances ($ Millions)**

| | Actual 2007-08 | Adjusted Budget 2008-09 | Estimated 2009-10 |
|---|---|---|---|
| **Allocated Revenue** | | | |
| Operating & Non-operating Revenue | $10.64 | $10.60 | $10.63 |
| Received Open Space Credit from North County | $1.26 | $1.37 | $1.26 |
| **Total Allocated Revenue** | **$11.90** | **$11.97** | **$11.89** |
| **Allocated Costs** | | | |
| Operation | $8.40 | $10.23 | $9.25 |
| Imported Water | $2.74 | $2.29 | $2.70 |
| Amortized Capital Improvements | $1.75 | $1.73 | $2.12 |
| Interest (earned)/due Utility Reserves | $0.02 | $0.07 | $0.13 |
| **Total Allocated Cost** | **$12.90** | **$14.32** | **$14.20** |
| **Surplus (Shortfall)** | **($1.00)** | **($2.35)** | **($2.31)** |
| **Cumulative Balance** | ($1.03) | ($3.39) | ($5.70) |

On a cumulative basis, costs are estimated to exceed revenues by almost $5.7 million at the end of FY 2009-10 not including the costs of the perchlorate response program. Figure IV-4.1 shows the projected cumulative revenue shortfall under the recommended charge projection for South County/ Coyote Valley. Under this projection, cumulative costs will exceed cumulative revenues and will not be balanced until FY 2015-16. The projection assumes an average increase of 7.2% in the M&I groundwater charge between FY 2008-09 and FY 2018-19. The average increase under the higher projection shown in Figure IV-1.1 is 11.7%, over the same time frame.

**FIGURE IV-4.3** **South County/Coyote Valley Cumulative Revenue Surplus/Shortfall Projection ($ in Thousands)**



The revenue shortfall, which began in FY 2002-03 was initially driven by investments in recycled water and conservation. In subsequent years, cost increases were driven by program enhancements including increased water supply planning and collaboration efforts, installation and operation ofmore wells to monitor groundwater levels and quality, development of computer models for the groundwater basins, initiation of an asset management program, more maintenance work on San Felipe Division facilities and raw water pipelines, and improved security. More recently, increases in imported water contract rates and loss of property tax revenue have exacerbated the revenue shortfall.

In 2003, the district initiated an aggressive strategy to respond to the perchlorate contamination found in the Llagas Subbasin. The district has funded perchlorate-related costs from Water Utility reserves and federal grants as opposed to groundwater production charges. Staff has tracked the costs of the perchlorate response program separately and has requested full reimbursement from the responsible party. If the district is not successful in obtaining full reimbursement, the cumulative revenue shortfall in South County/Coyote Valley would worsen. Staff continues to work on plans with customers and partners in the region to take advantage of federal and state grant opportunities to fund projects that would help restore the groundwater basin.

Current board policy adds an "open space" credit to agricultural revenues. The purpose of the credit is to preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low. The credit to agricultural water users in a groundwater production charge zone amounts to the difference in revenue from agricultural water production charged at 10% or less of the zone's M&I charge and that which would be generated if the agricultural production charge were 25% of the zone's M&I charge. The credit is funded by 1% ad valorem property tax revenues. A board policy setting the agricultural water production charge at one tenth or less of the zone's M&I charge was instituted in July 1998 and formally incorporated into the pricing policy in Resolution No. 99 21 (see Appendix C). The recommended agricultural groundwater production charge for FY 2009-10 is $17.50, which is 6.1% of the M&I groundwater production charge in South County and 3.2% in North County.

As shown earlier in Table IV-4.4, the Open Space Credit received by the South County/Coyote Valley was $1.26 million in FY 2007-08, budgeted to be $1.37 million in FY 2008-09, and estimated to be $1.26 million in FY 2009-10. As the M&I charges for both zones are projected to grow over the next ten years, the amount of the Open Space Credit available to support agricultural water revenues will increase.

Table IV-4.5 shows the relationship between expenditures and budgeted sources of revenue in South County/Coyote Valley (Zone W 5) for FY 2009-10. The groundwater production charges recommended for FY 2009-10 in Zone W 5 are necessary to conduct, "district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this state" (District Act, Section 26.3).

**TABLE IV-4.5 Fiscal Year 2009-10 South County/Coyote Valley Water Utility Program Requirements and Financing Sources**

| | | FY 10 | |
|---|---|---|---|
| **Program** | **Cost Category** | **Prelim ($K)** | **Description of Activities** |
| Groundwater Management | Groundwater Management | 2,293 | Operate & maintain recharge ponds, canals, pipelines & diversions including vegetation management, groundwater level & quality monitoring, groundwater modeling, subsidence data collection & analysis, groundwater recharge reuse, groundwater recharge evaluation |
| Treated Water Ops & Maint | Treatment Plant Ops & Maintenance | - | Operate & maintain 3 water treatment plants |
| | Drinking Water Quality | 189 | Water District laboratory operations, water quality planning, testing, research, and reporting |
| | Treated Water Transmission & Distribution | - | Maintain & operate treated water transmission and distribution system |
| Water Supply | Water Supply Storage | 1,139 | Dams and reservoir operations & maintenance, water banking program |
| | Imported Water Purchases | 2,703 | Imported water purchases |
| | Raw Water Transmission & Distribution | 1,496 | Operate & maintain raw water distribution system, including mechanical, electrical and SCADA |
| Water Supply Planning | Short-Term Water Supply Planning and operations | 222 | Data collection & analysis, water supply conditions analysis, operations planning, shortage contingency planning & implementation, operating policies and procedures |
| | Water Supply System Sustainability | 242 | Water rights protection, disaster planning, asset protection |
| | Long-term Water Supply Planning | 958 | Integrated Water Resources Plan, Urban Water Management Plan, infrastructure master planning, integrated regional water management plan, water system computer modeling, imported water supply management, long-term Delta issues resolution |
| Recycling & Conservation | Water Recycling | 361 | Administer agreements, planning, technical studies, recycled water rebates |
| | Water desalination | - | regional desalination project, salinity management |
| | Water Conservation | 522 | Technical assistance, financial incentives, outreach and education, program development |
| Natural Resource Protection | Resource Protection | 504 | Environmental planning & compliance, well permitting and destruction, biodiversity monitoring |
| | Mitigations to Protect Natural Resources | 123 | Environmental compliance support, habitat conservation and mitigation commitments, urban runoff polution prevention |
| | Climate change mitigation and adaptation | 19 | Programs and activities to mitigate climate change impacts and plan for adaptation strategies |
| Support Services | Water Utility Business Services | 2,329 | General & division management; performance measures; non-project related unit management; communications; financial support & water charge setting; public outreach; health and safety training; billing, data maintenance, auditing; meter reading, testing, repair, installation, backflow prevention |
| | Strategic Support Services | 78 | Emergency services, warehouse and equipment services, real estate services, ethics & diversity |
| Capital & Other | Capital Cost Recovery | 2,116 | Annual payment for completed capital facilities and improvements |
| | Interest (Earned)/Due Utility Reserves | 134 | Based on cumulative revenue shortfall at 3% interest rate |
| | Operating Cost Reductions | (1,225) | Operating Cost reductions |
| | Total Program Requirements | 14,203 | |
| | | | |
| | **Financing Sources** | | |
| | Open Space Credit | 1,261 | |
| | Property Tax & Other Revenue | 2,685 | |
| | Surface Water Charges | 97 | |
| | Groundwater Production Charges | 7,848 | |
| | Total Financing Sources | 11,892 | |
| | | | |
| | FY 10 Revenue Shortfall | (2,312) | |

# Appendix A

## Water Utility Charge Components and Recommended Charges

**TABLE A-1 Recommended Charge Components for Fiscal Year 2009-10**

| Component | Charge ($/AF) |
|---|---|
| Basic User, Zone W-2 (North County) | |
| Agricultural | 17.50 |
| M&I | 545.00 |
| Basic User, Zone W-5 (South County/Coyote Valley) | |
| Agricultural | 17.50 |
| M&I | 285.00 |
| Treated Water Surcharge | |
| Contract | 115.00 |
| Non-contract | 150.00 |
| Surface Water Charge | |
| Water Master | 11.75 |

**TABLE A-2 Recommended Charges for Fiscal Year 2009-10**

| Type of Charge | AG Water ($/AF) | M&I Water ($/AF) |
|---|---|---|
| Groundwater Production | | |
| Zone W-2 | $17.50 | $545.00 |
| Zone W-5 | $17.50 | $285.00 |
| Surface Water[1] | | |
| Other Zone W-5 Deliveries[2] | $29.25 | $296.75 |
| Other Zone W-2 Deliveries[3] | $29.25 | $556.75 |
| Minimum Charge Zone W-5[4] | $213.75 | $213.75 |
| Minimum Charge Zone W-2[5] | $408.75 | $408.75 |
| Stored Water | | |
| Zone W-2 | $17.50 | $545.00 |
| Zone W-5 | $17.50 | $285.00 |
| Treated Water | | |
| Contract[6] | N/A | $660.00 |
| Non-contract[7] | N/A | $695.00 |
| Recycled Water | | |
| Gilroy | $41.50 | $275.00 |

[1] Surface water charge is the sum of the basic user charge plus the water master charge. It also includes the capital cost and power, wherever applicable.

[2] Other Zone W-5 Deliveries = Basic User (AG or M&I @ $17.50/AF or $285.00/AF) + Water Master ($11.75/AF).

[3] Other Zone W-2 Deliveries = Basic User (AG or M&I @ $17.50/AF or $545.00/AF) + Water Master ($11.75/AF).

[4] Minimum Charge W-5 = 0.75 X Basic User W-5 (M&I @ $285.00/AF).

[5] Minimum Charge W-2 = 0.75 X Basic User W-2 (M&I @ $545.00/AF).

[6] Treated Water Charge is the sum of Basic User ($545.00/AF) and Treated Water Surcharge ($115.00/AF).

[7] The charge for non-contract deliveries is the sum of the basic user charge ($545.00/AF) and the treated water surcharge for non-contract water ($150.00/AF).

# Appendix B

## Description of Water Utility Revenue Sources, Cost Centers, and Reserves

### *Pricing Policy*

The district's board adopted Resolution No. 99 21 in March 1999, updating the previous Water Utility taxing and pricing policy. This pricing policy incorporates four concepts: (1) water pooling, (2) water facilities cost pooling, (3) water resources management, and (4) revenue pooling. The principal update to the policy in March 1999 was the board setting the agricultural charge at 10% of the M&I charge in both Zones W 2 and W 5. Resolution No. 99-21 is included in Appendix C.

### *Charges*

- The groundwater production charge reflects the benefit of district activities to protect and augment groundwater supplies. The groundwater production charge is applied to water extracted from the groundwater basin in Zones W 2 and W 5, as shown in Appendix F.
- The basic user charge is applied to water delivered by the district. There are two charges: one for agricultural water and one for M&I water.
- A treated water surcharge, which is associated with the benefit of receiving treated water, is imposed in addition to the basic user charge on water delivered from the district's water treatment plants.

### *Property Taxes*

Ad valorem taxes provide revenue to support several benefits which are general in nature serving all or large areas of the county. Some of these benefits are the availability of imported water to the county and replenishment of the county's groundwater subbasins.

The district receives a portion of the 1% countywide tax revenues as allocated by the County Assessor. Tax Zones W 3 and W 4, as well as a countywide ad valorem tax, are part of the 1% allocation. The district's share of the (post-Proposition 13) 1% ad valorem taxes are general taxes which are not earmarked but are available for any lawful district purpose.

The district also levies additional ad valorem taxes under Article XIII A of the State Constitution to meet: (a) prior approved general obligation bond debt service in Zone W 1 (zones are shown on the map in Appendix E) and (b) part of the contractual obligations for California State Water Project water with a countywide tax.

# Appendix B

## *Debt Financing*

To fund the construction of new facilities, the district has historically relied on both pay as you go financing and debt financing.

## *Water Utility Reserves*

There are multiple reserves designated in the Water Utility Enterprise Fund. Policies and procedures for fund balance reserves, as approved by the district board of directors in March 2008 can be found in Appendix D.

## *Water Utility Zones*

The major sources of revenue are from production charges imposed on all groundwater extracted within Zone W 2 and Zone W 5 of the district and from the sale of treated water. Other charges are made for surface water diversions and sales of recycled water in the Gilroy area. A brief description of each water zone (see Water Utility Zones map in Appendix E) within the Water Utility Enterprise follows:

Zone W 1: Encompasses the groundwater basin in the northern county and small peripheral areas outside the groundwater basin, with the retail service areas of privately owned public utilities and municipal water departments using water pumped from the groundwater basin. This area provides the security for general obligation bonds. Zone W 1 comprises an area of approximately 290 square miles and includes all or portions of 13 of the county’s 15 cities, plus some unincorporated territory.

Zone W 2: Encompasses the Santa Clara Valley groundwater basin north of Metcalf Road. It includes those groundwater producing facilities that benefit from recharge of the basin with local and imported water. A charge is levied for all groundwater extracted from this zone.

Zone W 3: Encompasses the Coyote and Llagas groundwater basins in the area from Metcalf Road in the north to just south of the City of Morgan Hill. Part of the county property tax within the 1% limit is allocated to this zone.

# Appendix B

Zone W 4: Contains all of Zone W 2 and lands outside Zone W 2 that use or otherwise benefit from locally conserved water and from the importation and distribution of water from the South Bay Aqueduct. This area also receives an allocation of county taxes. These tax revenues are used to pay for the cost of water, recovery of accumulated overdrafts, control of land surface subsidence, and to sustain the emergency supply of water.

Zone W 5: Is comprised of the entire groundwater basin from Metcalf Road south to the Pajaro River. Charges are levied for all groundwater extracted from this zone.

Zone W 6: Represents the former Gavilan Water Conservation District and is within Zone W 5.

## *Water Utility Cost Centers*

The Source of Supply Cost Center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply and includes all district conservation, recycling, and importation costs.

The Raw Water Transmission and Distribution Cost Center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.

The Water Treatment Cost Center contains all expenditures associated with the treatment of water at the Rinconada Water Treatment Plant, Penitencia Water Treatment Plant, and Santa Teresa Water Treatment Plant.

The Treated Water Transmission and Distribution Cost Center contains all expenditures relating to the distribution of treated water to water utilities and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts.

The Administration and General Cost Center contains all expenditures of an administrative nature, which are not assigned to one of the other four cost centers. Work performed in this cost center covers items such as the collection of groundwater production charges, financial and cash flow studies, annual reports, and general water quality management and resource planning.

# Appendix C

## Resolution 99-21: Adopting “Water Utility Taxing and Pricing Policy” and Rescinding Resolution No. 96-82

WHEREAS, the Santa Clara Valley Water District (District) adopted a District mission, goals and objectives on February 19, 1985, in order to conduct a sound water management program that serves the community; and

WHEREAS, the District Act authorizes the District to enter into water sales contracts and to levy and collect taxes and assessments on property within the District and in the respective zones of the District and sets forth requirements for groundwater charges and rates between agricultural and nonagricultural water; and

WHEREAS, several Board resolutions, as identified in Exhibit "A," are related to the management of water resources and the implementation of this water taxing and pricing policy; and

WHEREAS, several changes which affect revenue sources and benefit distribution have occurred since adoption of Resolution No. 96-82. These changes include: (1) passage of Resolution Nos. 98-44 and 98-45 setting agricultural charges for groundwater and surface water at 10 percent of the nonagricultural charges; (2) revisions to the policy governing sale of noncontract water in 1998; (3) pending completion of an agreement to act as the wholesaler to deliver recycled water in South County

BE IT RESOLVED, by the Board of Directors of the District as follows:

1. **The policy of the District in the areas of taxation and water pricing for water utility revenues shall be and is hereby adopted:**

   **Policy Statement**

   The intent of this water utility taxing and pricing policy is to provide revenue for the management of water resources and operation of the water utility enterprise. This policy establishes a framework for establishing a system of water charges as permitted by the District Act to meet revenue requirements and to allocate costs amongst the beneficiaries. The general approach is to charge the recipients of the various benefits for the benefits received from the District's comprehensive water utility program.

   The consumptive and nonconsumptive benefits provided by District water supply facilities and operations are listed and described below:

   - Provision of a water supply and effective management of water resources available to the community from a variety of sources of supply, transmission, and water treatment facilities operated by the District.

   - Protection of water quality through the purification and treatment of water and the protection of water supplies.

   - Stewardship of watersheds and riparian corridor.

   - Administration of related programs and projects such as recycled water and water conservation administered solely by the District or in partnership with another organization.

# Appendix C

- Ancillary flood protection.
- Recreation, such as fishing, boating, picnicking, hiking, and other related recreation activities.
- Support for the economic well being of the community.
- Protection of the community infrastructure from subsidence.

## 2. Policy Implementation

The following water taxing and pricing concepts and framework shall be implemented in order to provide for revenue in order to continue providing direct and ancillary benefits to the customers of the District and the community of Santa Clara County.

### Water Taxing and Pricing Concepts

- ***Water Pooling***: Water is considered to be a single commodity irrespective of the water's source or cost. It is a single commodity whether it is from water provided locally, imported, or recycled, and all users benefit from the availability of multiple sources of water.
- ***Water Facilities Cost Pooling***: All water supply facilities contribute to the common benefit of effective water resources management. In general, the water charges and property taxes are based on the common benefits of the capital and operations outlays, rather than reference to named facilities, with the exception of the liability for bonded indebtedness which is applied to each zone of benefit.
- ***Water Resources Management***: Water supplies are managed, through taxing and pricing, to obtain the effective utilization of the water resources of the District to the advantage of the present and future populations of the County. This concept provides for development of taxing and pricing structures that will achieve the effective use of available resources and conserve supplies for potential drought conditions.
- ***Revenue Pooling***: For the most part, water utility revenues are collected in a common fund and not designated for a specific cost. Such revenues are available for the general capital and operating outlays of the water utility enterprise. Some revenues such as certain property taxes are specifically designated for debt service and the fixed costs of the State Water Project, and are not available to the common fund. Water charges are established to provide the revenues that are required in the common fund for general capital and operating outlays and that are over and above revenues from ad valorem taxes, interest, and miscellaneous sources. This provides flexibility in managing continuing operations and funding capital outlays.

### Water Taxing and Pricing Framework

The following procedures are intended as a general framework to guide staff in the development of a water rate structure implementing this policy:

- ***Zones of Benefit***: Zones of benefit are to be identified and established in accordance with the District Act. Groundwater charges and property taxes are levied for the benefits received by the water users and property owners benefitting from that zone. For each zone, a basic

# Appendix C

water user charge is determined for current groundwater and raw surface water users to be applied to the quantities of water used or consumed.

- ***Basic Water Charge Zones***: The objective of establishing various water charge zones is to recover costs for the benefits resulting from conservation, import, and recharge of water which occur only within that zone. Water charges are levied for water producing operations, such as groundwater pumping and raw surface water diversion. In addition, users may be subject to specific charges that meet special needs of a group of users, such as water master charges for surface water deliveries, a capital charge for equipment or facilities, and power costs for pumping.

- ***Treated Water Surcharge***: A treated water surcharge shall be added to the basic water charge for the price of treated surface water delivered by the District. The charge is to be established at an amount that would promote the effective use of available water resources. The charge may differ between treatment plants to better manage regional variations in groundwater conditions.

- ***Costs for Specific Benefits***: Whenever costs associated with specific benefits are clearly and easily measurable, those costs shall be charged to the beneficiaries, in accordance with their specific zones of benefit. Where there is a question as to the identity of the beneficiary or the method of measuring the benefit, the allocation of costs should remain flexible and be determined in accordance with accepted practices and sound judgements based on the four water pricing concepts. The District recognizes and supports the State Legislature's limitation imposed on the District that rates for agricultural water shall not exceed one-fourth of the rate for all water other than agricultural water. In order to encourage the continuance of agricultural use of land in the County, to encourage the preservation of open space, to defer intensification of users and to further support the limitation imposed by the State Legislature, it is the District's policy that rates for agricultural water shall not exceed one-tenth the rate for all water other than agricultural water.

  Both water charges and property taxes are used to recover costs incurred for the benefit of current water users. The costs for future supply sources can be recovered using current revenues or through project specific long-term financing.

- ***Balancing Costs***: The District recognizes that there may be imbalances between revenues and costs within a zone of benefit from year to year. The District will strive to achieve balance over the long-term in accordance with the District Act and to properly charge recipients for the benefits received.

- ***Incentives***: Incentives in the form of subsidies may be provided in order to reduce the price of specific sources of water in order to optimize use of available or future water resources.

- ***Recycled Water***: From time to time, the District may enter into agreements to provide wholesale delivery or other services related to recycled water. The District will strive to recover the costs of these facilities consistent with the pooling concepts outlined above, while adhering to the specifics of any agreement.

# Appendix C

### 3. Executive and Staff Limitations

District staff are authorized to develop a water rate structure which meets the objectives set forth herein, in accordance with the District Act, and using the concepts set forth above. The District's rate structure is implemented only by resolutions approved by the Board of Directors.

Staff is authorized to recommend water charges for consideration by the Board in accordance with the District Act. Water charges, if any, shall be recommended by staff each year be at fixed and uniform rates for agricultural water and for all water other than agricultural water, respectively, except that each such rate for agricultural water shall be one-tenth of the rate for all water other than agricultural water. The Board has determined that agricultural use of lands is of value to the County and the state, and that agricultural lands provide an open space benefit. The Board's limiting staff to a recommendation of agricultural water rates below the maximum allowed by the District Act will benefit water users Countywide, and is necessary to carry out the policies of the State Legislature and the District Board of Directors.

Staff is authorized to prepare, for the Board's consideration, resolutions for the collection of property taxes as needed and authorized under applicable laws.

### 4. Previous Policy Rescinded

The "Water Taxing and Pricing Policy," adopted by Resolution No. 96-82, is hereby rescinded.

PASSED AND ADOPTED by the Board of Directors of Santa Clara Valley Water District on March 16, 1999 by the following vote:

AYES: Directors Gross, Zlotnick, Judge, Kamei, Sanchez, Estremera, Wilson

NOES: Directors None

ABSENT: Directors None

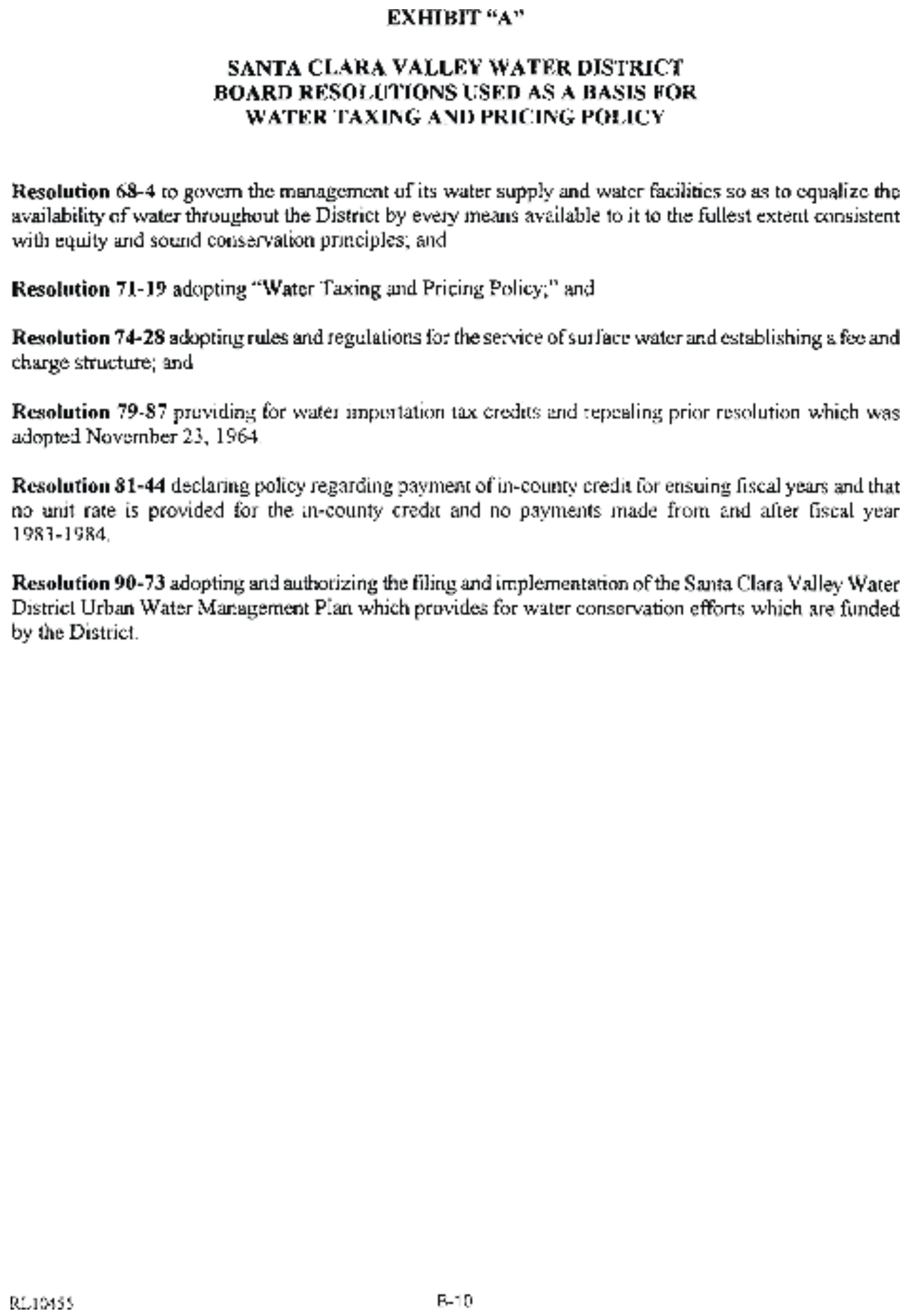
SANTA CLARA VALLEY WATER DISTRICT

By: ______________________
Chair/Board of Directors

ATTEST: LAUREN L. KELLER

Lauren L Keller
Clerk/Board of Directors

# Appendix C



## EXHIBIT "A"

## SANTA CLARA VALLEY WATER DISTRICT BOARD RESOLUTIONS USED AS A BASIS FOR WATER TAXING AND PRICING POLICY

**Resolution 68-4** to govern the management of its water supply and water facilities so as to equalize the availability of water throughout the District by every means available to it to the fullest extent consistent with equity and sound conservation principles; and

**Resolution 71-19** adopting "Water Taxing and Pricing Policy;" and

**Resolution 74-28** adopting rules and regulations for the service of surface water and establishing a fee and charge structure; and

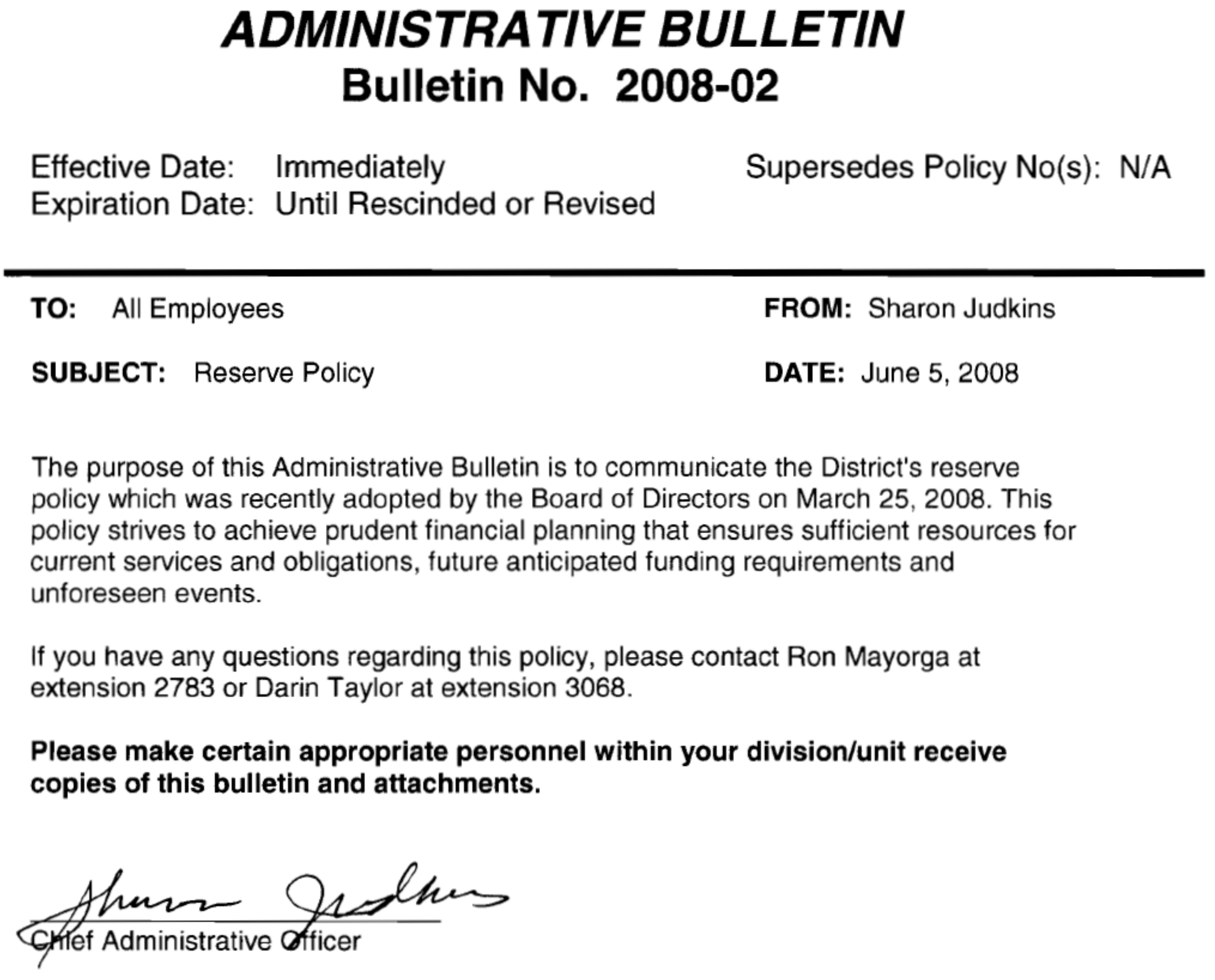
**Resolution 79-87** providing for water importation tax credits and repealing prior resolution which was adopted November 23, 1964.

**Resolution 81-44** declaring policy regarding payment of in-county credit for ensuing fiscal years and that no unit rate is provided for the in-county credit and no payments made from and after fiscal year 1983-1984.

**Resolution 90-73** adopting and authorizing the filing and implementation of the Santa Clara Valley Water District Urban Water Management Plan which provides for water conservation efforts which are funded by the District.

# Appendix D

## Santa Clara Valley Water District Reserve Policy



### *ADMINISTRATIVE BULLETIN*

### Bulletin No. 2008-02

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Expiration Date: Until Rescinded or Revised
Supersedes Policy No(s): N/A

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**TO:** All Employees
**FROM:** Sharon Judkins

**SUBJECT:** Reserve Policy
**DATE:** June 5, 2008

The purpose of this Administrative Bulletin is to communicate the District's reserve policy which was recently adopted by the Board of Directors on March 25, 2008. This policy strives to achieve prudent financial planning that ensures sufficient resources for current services and obligations, future anticipated funding requirements and unforeseen events.

If you have any questions regarding this policy, please contact Ron Mayorga at extension 2783 or Darin Taylor at extension 3068.

**Please make certain appropriate personnel within your division/unit receive copies of this bulletin and attachments.**

Sharon Judkins
Chief Administrative Officer

# Appendix D

## Santa Clara Valley Water District Reserve Policy

### POLICY STATEMENT

Key objectives of prudent financial planning are to ensure sufficient resources for current services and obligations, and to prepare for future anticipated funding requirements and unforeseen events.

To meet these objectives, the Santa Clara Valley Water District will at all times strive to have sufficient funding available to meet its operating, capital, and debt service cost obligations. Reserve funds will be accumulated and managed in a manner which allows the District to fund costs consistent with the Capital Improvement Program, Integrated Resource Management Plan, and long range financial plans while avoiding significant rate fluctuations due to changes in cash flow requirements. The District will also maintain a cash reserve position that may be utilized to fund unexpected fluctuations in revenues and operating/capital expenditures. The level of reserves maintained and policies behind them will be reviewed annually with the Board of Directors during budget deliberations.

### DEFINITIONS

There are two categories of reserves – Restricted and Unrestricted – defined by Generally Accepted Accounting Principles (GAAP).

**Restricted Reserves**: Funds for which uses are constrained by either (a) externally imposed obligations with creditors, grantors, contributors, or laws/regulations of other governments; or (b) laws enacted through constitutional provisions or enabling legislation. *[For purposes of this policy and the budget, the term "Restricted" is used to denote the Enterprise Funds category "Restricted" and the Governmental Funds category "Reserved," both of which are bound by the same requirements described above under GAAP.]*

**Unrestricted Reserves**: Funds for which uses are not constrained by externally imposed restrictions. The uses of these funds are at the discretion of the Board of Directors. There are two categories of Unrestricted Reserves:

> **Designated Reserves**: Funds for which uses are specified by the Board of Directors.
>
> **Undesignated Reserves**: Funds for which no uses are specified.

### Budgeted Reserves

Budgeted reserves may vary from those of the Comprehensive Annual Financial Report (CAFR) where it is appropriate to recognize actual cash transactions that are recorded in the CAFR as liabilities. Such adjustments include recognizing inter-fund loans, commercial paper financing, and certain accruals as funding sources available for appropriation or as funding uses that reduce funds available for other purposes. These adjustments must be annually reconciled to the audited CAFR.

# Appendix D

## Santa Clara Valley Water District Reserve Policy

### RESERVES

The Santa Clara Valley Water District reserves are categorized either as restricted or designated. The purpose, funding level, and reserve uses are presented below.

### RESTRICTED RESERVES:

**Debt Service Reserves**:
These reserves were established for various bond issues. The funds are not available for general needs of the District and must be maintained as dictated in the bond covenants of the various issues. Not all bond issuances may have all of the following reserves, but the primary debt reserves are: Debt Service Reserve Fund (to fund payments should the District not be able to make debt service payments due to cash shortfalls), Arbitrage Rebate (to accumulate funds to offset the potential liability from excess earnings) and Debt Service Payment Fund (a pass through reserve for initiating debt service payments).

**Debt Proceeds Reserves**:
Bond covenants prescribe the use of debt financing proceeds. Debt proceeds typically fund capital projects as described in various bond issues. Debt proceeds, however, are not claimed until project expenses are incurred. Unclaimed debt proceeds are held in trust and identified in Debt Proceeds Reserves.

**Water Utility Enterprise – Restricted Operating Reserve**:
Revenue Bond covenants for the Water Utility Enterprise require the provision of an Operating Reserve that is only to be used to meet operating needs if there are no other funding sources available. The minimum funding level required by bond covenants is one month of maintenance and operations costs. Any amounts in excess of the minimum are discretionary and therefore held in the Designated Operating Reserve.

**Water Utility Enterprise – Rate Stabilization Reserve:**
Revenue Bond covenants for the Water Utility Enterprise require the provision of a Rate Stabilization Reserve to offset extraordinary expenses and revenue shortfalls, and to supplement District revenues to meet Debt Service Coverage requirements. The minimum funding level required by bond covenants is 10% of annual debt service due on all Parity Obligations with the maximum capped at the 20% level per this policy. The specific level set within this range is to be financially prudent and based on reasonably anticipatable needs.

**Water Utility Enterprise – San Felipe Emergency Reserve:**
This reserve is required by District contractual obligations with the U.S. Bureau of Reclamation for the operation and maintenance of the San Felipe Division of the Central Valley Project. The purpose of the reserve is to provide resources for unusual operation and maintenance costs incurred during periods of special stress caused by damaging droughts, storms, earthquakes, floods, or emergencies threatening or causing interruption of water service. Use of this reserve requires authorization by the U.S. Department of the Interior. Per contract, the funding level is accumulated in annual deposits of $200,000 until the reserve totals $1.75 million after which interest earned on the reserve is deposited annually.

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## Santa Clara Valley Water District Reserve Policy

**Encumbrance Reserves:**
This reserve represents the balance of outstanding encumbrances (contractual commitments) at year end, for which the goods or services have not been received. The reserved fund balance is available for subsequent year expenditures based on the encumbered appropriation authority carried over to the next fiscal year. The funding level of this reserve will be adjusted annually, at year-end, based on the remaining balance of encumbrances still outstanding as of the end of the fiscal year.

### DESIGNATED RESERVES:

**Market Valuation Reserves:**
The reserve for market valuation represents the increase/gain (only) in the market value of the District's pooled investments as of the end of the fiscal year as a result of its compliance with the provisions of Government Accounting Standard Board Statement No. 31 (GASB 31), Accounting and Financial Reporting for Certain Investments and for External Investment Pools. GASB 31 requires the District to report investments at fair market value in the Statement of Net Assets, the amount at which an investment could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. Because of this requirement, investment income must be adjusted to reflect the fair value change from one fiscal year to the next fiscal year. However, the District's investment policy dictates a buy-and-hold strategy in which, with very few exceptions, the District holds all securities to their maturity, thereby not incurring loss or gain that could impact the size and yield of the investment portfolio. This reserve does not represent cash available for appropriation and was established to ensure that the increase in the investment value does not result in an overstatement of funding available for expenditure.

**Floating Rate Debt Payment Stabilization Reserve:**
This reserve is intended to stabilize the debt service payments on floating rate debt which by its nature fluctuates constantly. This reserve will be for long-term floating rate debt and not short-term floating rate debt (ie. commercial paper). The reserve will be funded initially at 10% of the floating rate debt service interest payment.

The maximum amount is no more than 20% of total floating rate debt service interest payments for a fiscal year. Excess funds over 20% will be used to pay down floating rate debt when advisable (ie. Based on market conditions, future issuance plans, etc.). The minimum amount is 0. Should payments for floating rate interest in a given fiscal year exceed budgeted amounts, this reserve will be drawn down to provide stabilization of debt service interest payments.

**Operating & Capital Reserve:**
This reserve serves several purposes: to ensure adequate working capital for cash flow needs; to provide a funding source for operating & capital needs that arise during the year and, in the case of the water utility, to protect against revenue shortage caused by unusually wet years. The funding level for the Water Utility is a minimum of 15% of budgeted operations outlays and a minimum of 50% for the Watershed Funds. For the General Fund and Internal Service Funds, the funding level is a minimum of 5% of total budgeted operations outlays. The minimum level for each fund includes remaining available resources after the needs of all other reserves within

# Appendix D

## Santa Clara Valley Water District Reserve Policy

those funds have been met. The specific level of this reserve is to be set based on reasonably anticipatable needs.

**Supplemental Water Supply Reserve:**
The purpose of this reserve is to fund water banking activities, transfers, and exchanges necessary to augment supplies during water shortages and to sell or bank unused supplies when water resources are available. The reserve level is set at 20% - 50% of the annual imported water purchases budget based on prudent projections of hydrology, Delta conditions, and the water market.

**Clean Safe Creeks – Maintenance of Newly Improved Creeks:**
This Clean Safe Creeks and Natural Flood Protection reserve is established to appropriate special tax revenues for future maintenance of the nine flood protection projects approved by the voters. Funds accumulated in this reserve will be available for maintenance of the creek facilities in subsequent years upon the completion of the specified flood protection projects.

**Clean Safe Creeks – Other Activities:**
This Clean Safe Creeks and Natural Flood Protection Reserve is established to accumulate unspent funds for voter approved maintenance activities: Sediment Removal; District urban runoff pollution prevention; Hazardous materials mgmt and incident response including reservoirs; Impaired water bodies improvement; Good neighbor maintenance; Pollution prevention programs; and vegetation management. Funds accumulated in this reserve at the end of the 15-Year Clean Safe Creeks and Natural Flood Protection Program will be available for these purposes in subsequent years.

**Clean Safe Creeks – Special Purpose Reserve for Environmental Enhancement Program:**
This Clean Safe Creeks and Natural Flood Protection reserve is established to accumulate unspent funds for voter approved Environmental restoration, Fisheries management & restoration activities. These funds are used to support a grant funding process whereby proposals for environmental enhancements projects are solicited and selected for Board approval.

**Clean Safe Creeks – Special Purpose Reserve for Open Space & Trails Program:**
This Clean Safe Creeks and Natural Flood Protection reserve is established to accumulate funds for voter approved Open Space and Trails programs. These funds are used to support a grant funding process whereby proposals for open space and trails projects are solicited and selected for Board approval.

**Currently Authorized Projects Reserve:**
These reserves are designated to fund those capital projects that are included in the annually adopted 5-Year Capital Improvement Program (CIP) and which have had funding appropriated by the Board in prior years. The amount of these reserves for each fund at the end of a given fiscal year shall be based on the accumulated unexpended and unencumbered balances of Board approved capital project appropriations remaining at the end of each fiscal year.

A portion of these reserves are automatically rebudgeted at the beginning of the following fiscal year consistent with those projects that have been identified in the 5-Year CIP for funding in that

# Appendix D

## Santa Clara Valley Water District Reserve Policy

year. All remaining amounts shall stay in these reserves during the fiscal year unless a budget adjustment requiring the use of these reserves is approved by the Board. At the end of each fiscal year, these reserves shall also be adjusted for any capital projects that are closed out consistent with the 5-Year CIP.

### DESIGNATED LIABILITY AND OTHER RESERVES:

**Liability/Workers' Compensation Self-Insurance Reserve**
The Liability/Workers' Compensation Self-Insurance Reserve is to ensure that the District's self-insurance programs have adequate resources for general liability and workers compensation ultimate payouts for both known and incurred but not reported claims. Additionally, because of the District's high self-insured retention, and low claims volume, it also provides for reserve funds to cover one large liability loss which would otherwise virtually deplete existing reserves. The reserve is based on independent actuarial evaluations conducted bi-annually for general liability and workers compensation. The reserve level is set each year based on the actuarially-determined 95th percentile confidence level for total claims liabilities discounted to present value. The reserve is intended to be used for claim payouts that are greater than those budgeted.

**Property Self-Insurance/Catastrophic Reserve**
The Property Self-Insurance/Emergency Response Reserve purpose is to both provide for uninsured property losses to District facilities such as pipelines and levees and to provide sufficient funds to initiate repair and recovery of damage to District facilities in advance of FEMA activation and reimbursement. The reserve may be used to pay for uninsured/uninsurable property losses which would adversely impact District operations and/or to cover all or a portion of District paid expenses necessary to initiate immediate service restoration efforts. It is anticipated that in most cases, the reserves would be replenished from later reimbursement by FEMA for costs initially paid from this reserve. The reserve funding level is $5 million adjusted for outstanding reimbursements.

When this reserve is used, the corresponding reimbursements received are deposited in the Risk Management Fund to replenish the reserve directly or through subsequent adjustments to intra-District Risk Fund charges.

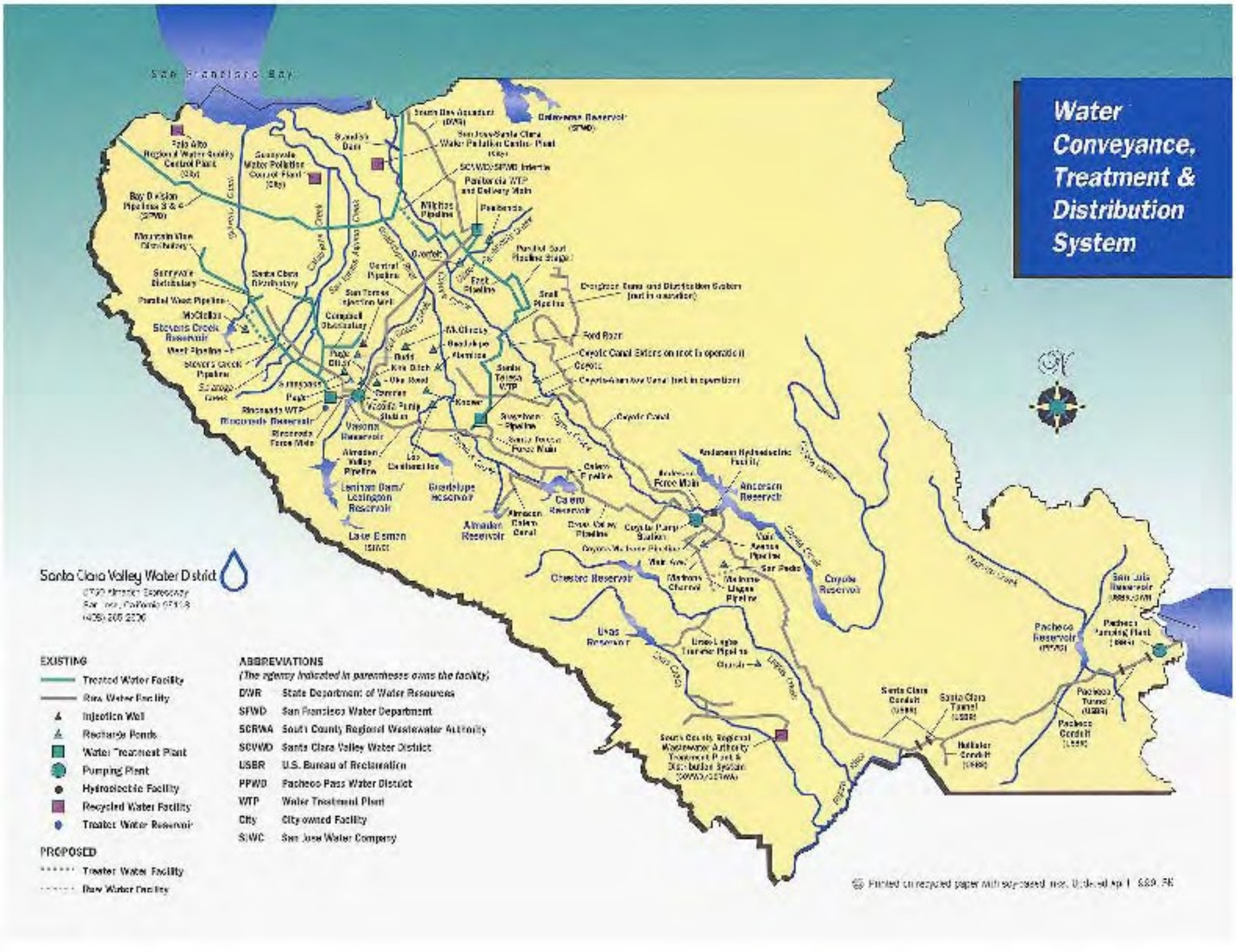
# Appendix E

## Acronyms

| | |
|---|---|
| ABAG | Association of Bay Area Governments |
| AF | Acre Foot / Acre Feet |
| AG | Agriculture |
| AMWP | Annual Maintenance Work Plan |
| BARDP | Bay Area Regional Desalination Project |
| BDCP | Bay Delta Conservation Plan |
| CAFR | Comprehensive Annual Financial Report |
| CALSIMI | California Water Resources Simulation Model, ver. II |
| CDFG | California Department of Fish and Game |
| CEO | Chief Executive Officer |
| CIP | Capital Improvement Project |
| CPP | Coyote Pumping Plant |
| CVP | Central Valley Project |
| DFG | Department of Fish and Game |
| District | Santa Clara Valley Water District |
| DSOD | Division of Safety of Dams |
| DV | Delta Vision |
| DWR | Department of Water Resources |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| FAHCE | Fisheries and Aquatic Habitat Collaborative Effort |
| FERC | Federal Energy Regulatory Commission |
| FY | Fiscal Year |
| GAAP | Generally Accepted Accounting Principles |
| GASB | Comprehensive Annual Financial Report |
| HAZMAT | Hazardous Material |
| HCP | Habitat Conservation Plan |
| IWRP | Integrated Water Resource Plan |
| MAF | Million Acre Feet |
| M&I | Municipal and Industrial |
| MOA | Memorandum of Agreement |
| NCCP | Natural Communities Conservation Plan |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| OCAP | Operations Criteria And Plan |
| PPP | Pacheco Pumping Plant |
| PWTP | Penitencia Water Treatment Plant |
| SCADA | Supervisory Control and Data Acquisition |
| SCVWD | Santa Clara Valley Water District |
| SFPUC | San Francisco Public Utilities Commission |
| SWP | State Water Project |
| Three Creeks HCP | Three Creeks Habitat Conservation Plan |
| TWG | Technical Working Group |
| USBR | United States Bureau of Reclamation |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Service |
| UWMP | Urban Water Management Plan |
| Valley HP | Santa Clara Valley Habitat Plan |
| WTIP2 | Water Treatment Improvement Projects, Phase 2 |

# Appendix F

## Maps



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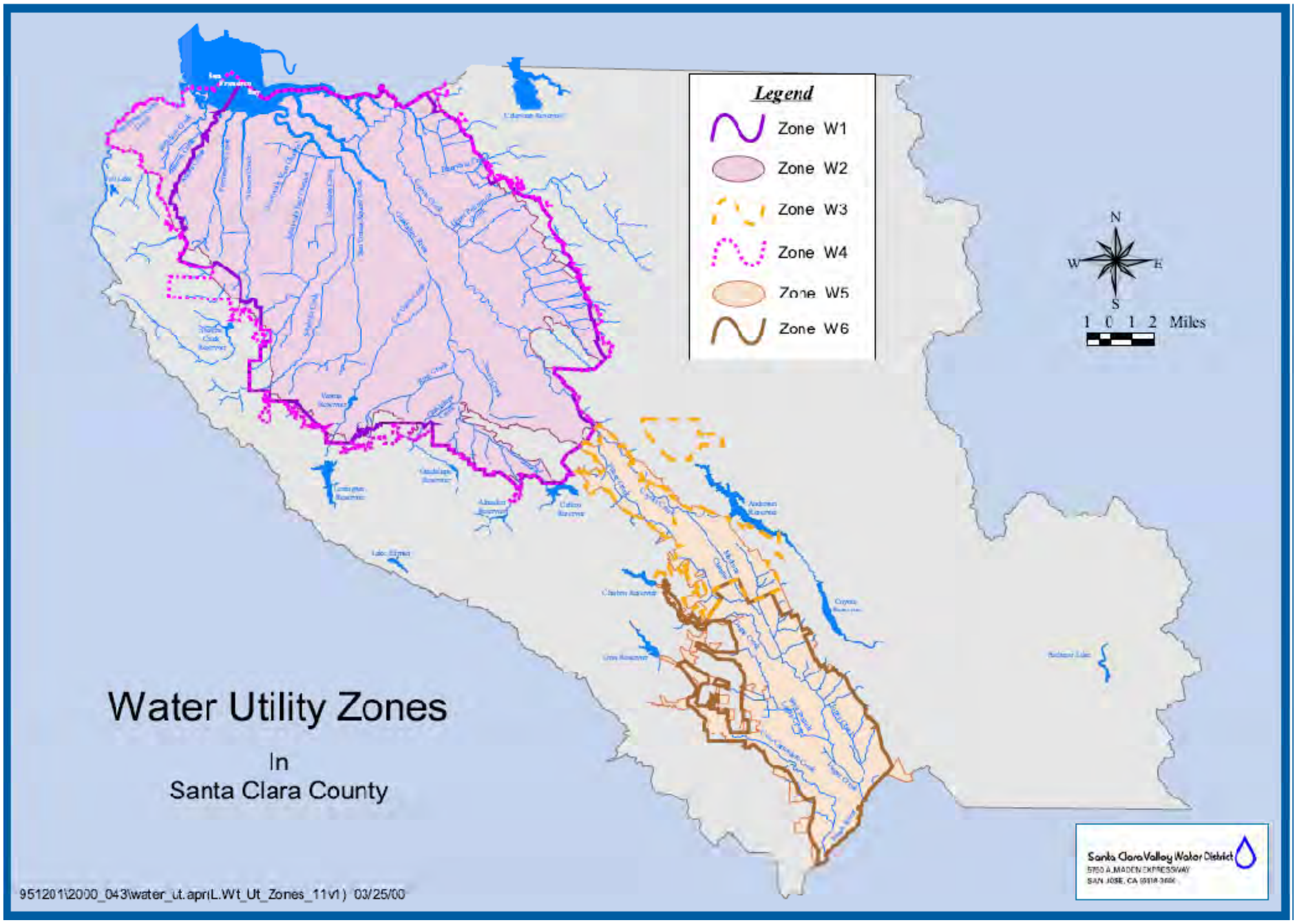

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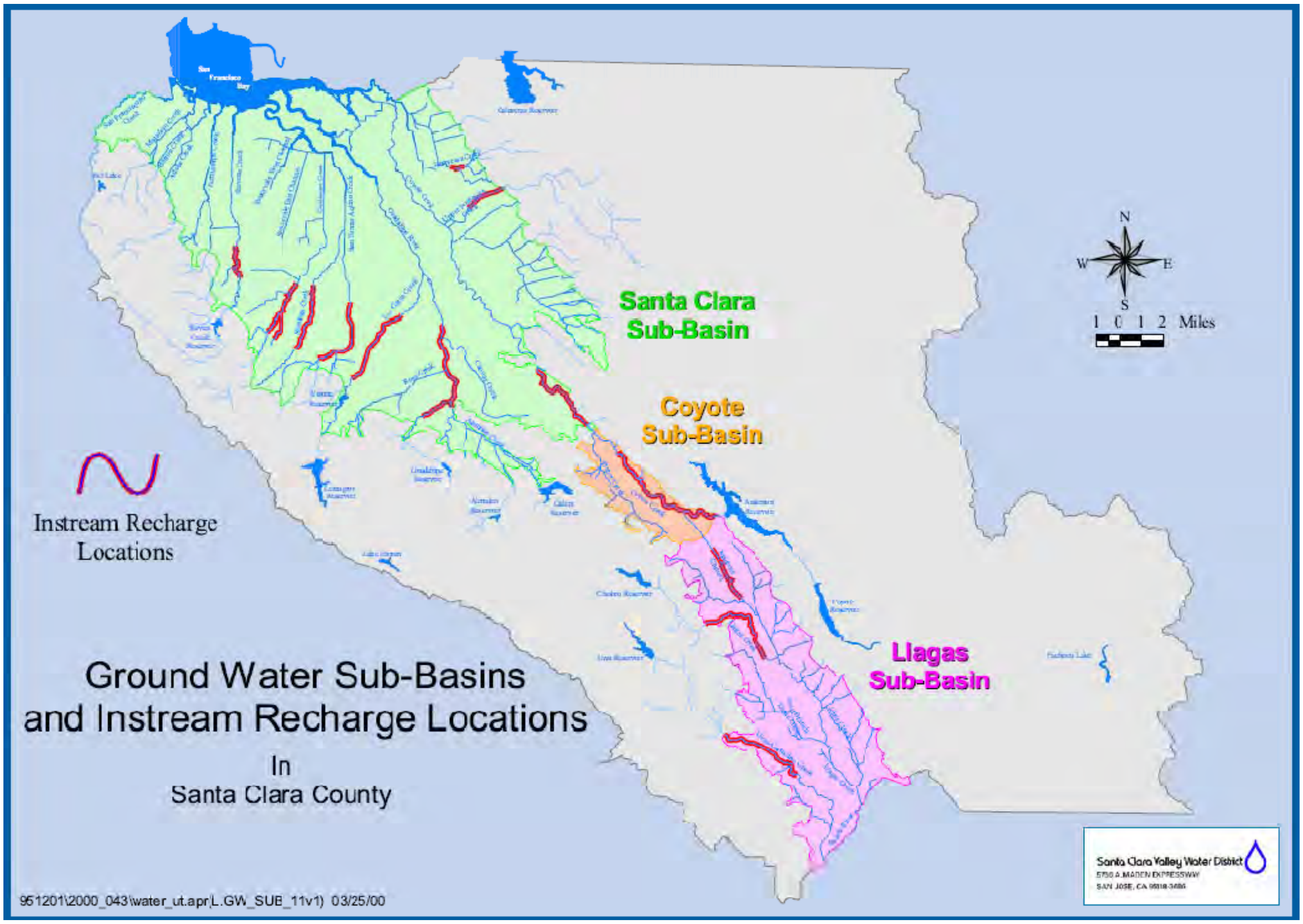
San Francisco Bay
Santa Clara Sub-Basin
Coyote Sub-Basin
Llagas Sub-Basin
Instream Recharge Locations
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Ground Water Sub-Basins and Instream Recharge Locations
In
Santa Clara County
Santa Clara Valley Water District
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SAN JOSE, CA 95118-3686
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